

**Preliminary Environmental Investigation
Notes to Support the Conclusions of the PES Form
(May Also Include Continuation of Detailed Project Description)**

Detailed Project Description

The Coastal Rail Trail (CRT) is a Multi-Jurisdictional project among the coastal cities of Oceanside, Carlsbad, Encinitas, Solana Beach and San Diego. Each city serves as the lead agency responsible for development of the CRT in their community.

The project will develop an approximately 40-mile, continuous corridor of multi-use, Class I, Class II, and some Class III bicycle facilities to be constructed primarily along the railroad right of way (ROW). The north coastal communities have made progress on their portion of the trail with Solana Beach being the first to complete segments.

The City of San Diego will develop approximately half of the 40-mile CRT. San Diego's portion is proposed to run for approximately 20 miles extending from Downtown, north to the City's border with Del Mar. Presently, the City is focusing engineering and environmental permitting efforts on the northerly +/- ten miles of trail from the Gilman Drive/I-5 intersection to the Sorrento Valley Road/Carmel Valley Road intersection. This will be referred to as the SD City CRT.

The purpose of the SD City CRT is to:

- Enhance regional bicycle route connectivity and improve intermodal relationships by connecting existing trails to adjacent communities and transit facilities,
- Improve the quality of recreational bicycle use in this connected system,
- Provide an alternative to vehicle commuting and heavily traveled roadways,
- Provide the opportunity to improve regional air quality, and
- Support the stewardship of San Diego's canyons and protect wetlands and other sensitive habitats

The needs that will be served by the development of the CRT are as follows:

Regional Connectivity and Intermodal Relationships

North coastal San Diego has various bike paths and trails; however, they are intermittent and discontinuous. The CRT project would both improve the already existing Class II facilities and create new Class I trails that would link many of the intermittent segments of existing trails, thereby enhancing the overall trail network. The quality of recreation bicycle use on this system would be greatly enhanced.

Significant efforts have been made throughout San Diego County to encourage and foster use of the Coaster – the commuter rail link servicing north coastal San Diego County. Better access to and connection with coaster stations is needed in order to make Coaster commuting an easy and convenient alternative to driving. The proposed CRT project connects bicycle commuter trail users to existing and proposed Coaster Stations, specifically the Sorrento Valley Coaster Station and the proposed Nobel Drive Coaster Station.

Transportation Demand

According to Mobility 2030, Sandag's regional transportation plan, interregional commuting will increase over the next 30 years due to expected population growth and job growth. Options need to be available to move people through the region. While the automobile is the most popular way to travel in Southern California and San Diego, adequate funding and right of way will not be available to widen highways in order to meet the increased transportation demands. The CRT, as a continuous 40-mile trail, would provide an attractive alternative to vehicle commuting to help to reduce traffic congestion.

Opportunity to Improve Regional Air Quality

According to the Air Pollution Control District (APCD) of San Diego, toxic air contaminants come from the following sources:

- 61% automobiles,
- 28% industrial facilities, and
- 11% natural sources

The APCD also contends that the primary way to fight air pollution is to reduce driving, and suggests methods such as combining errands, carpooling, telecommuting, walking, and bicycling. The CRT project would promote better air quality by providing a transportation alternative to the use of the private automobile. The reduction in vehicle miles traveled would contribute to improved air quality.

Support for Environmental Stewardship and Conservation Initiatives

A number of environmental conservation and stewardship proposals, such as the San Diego Civic Solutions Canyon Lands Initiative and the Rose Creek Watershed Alliance Opportunities Assessment, call for protection and preservation of San Diego's undeveloped canyons and watersheds through education and stewardship. One specific need outlined by San Diego Civic Solutions is to support communities and canyon lands with green infrastructure and connections to and between canyons. The SD City CRT would preserve the natural corridors of Roselle Canyon and Rose Canyon while better linking these undeveloped, ecological sanctuaries to their surrounding communities and to one another.

Brief Explanation of How Project Complies, or Will Comply with Applicable Federal Mandate (Part A):

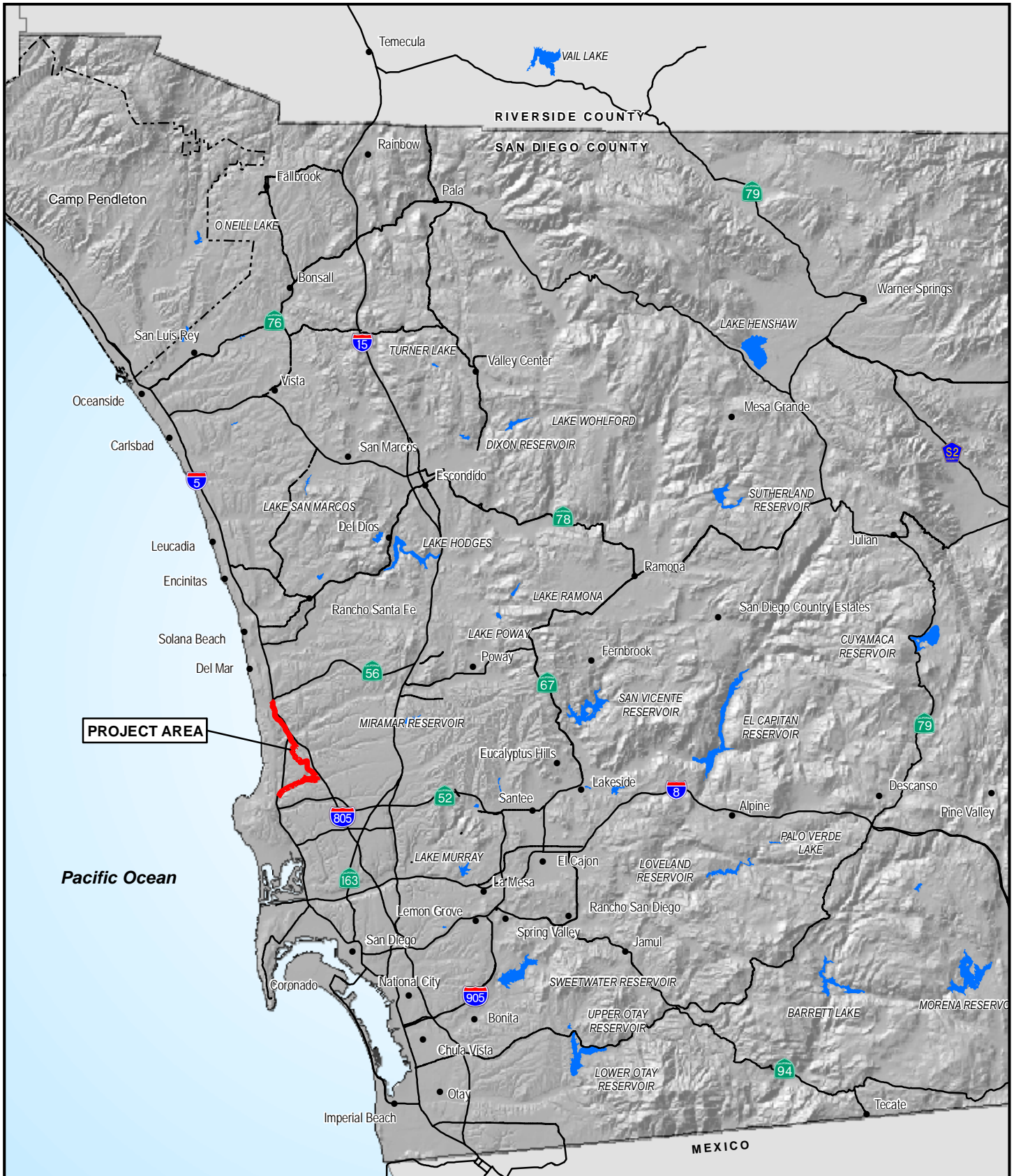
1. **Will the project require future construction to fully utilize the design capabilities included in the proposed project?**
No. The proposed project will not require future construction to fully utilize the design capabilities included in the proposed project because the proposed project will meet all proposed design capabilities.
2. **Will the project generate public controversy?**
To be determined. The proposed project could generate public controversy based on potential environmental effects associated with minor cut and fill operations within Rose and Roselle Canyons.
3. **Is the project a Type I project as defined in 23 CFR 772.5(h); "construction on new location or the physical alteration of an existing highway, which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes"?**
No. The proposed project is not categorized as a Type I project as defined in 23 CFR 772.5 (h).
4. **Does the project have the potential for adverse construction-related noise impact (such as related to pile driving)?**
No. The project does not have the potential for adverse construction-related noise impacts.
5. **Is the project in a NAAQS non-attainment or maintenance area?**
Yes. The San Diego Air basin is currently designated as a federal attainment for all criteria pollutants.
6. **Is the project exempt from the requirement that a conformity determination be made?**
Yes. The proposed project is exempt from conformity requirement (40 CFR 93.126) and is categorized in Table 2 of 40 CFR 93.126 as AQ-2 (Air Quality – Bicycle and Pedestrian Facilities).
7. **Is the project exempt from regional conformity?**
Yes. Per Exhibit 6-B, 'Instructions for Completing the PES Form', this question can be skipped if no conformity determination is required from Question #6. A conformity determination is not required since the project is one of the project types included in Table 2 of 40 CFR 93.126 as AQ-2 (Air Quality – Bicycle and Pedestrian Facilities).
8. **If project is not exempt from regional conformity, (If 'No' on Question #7)**
N/A.
9. **Is there potential for hazardous materials (including underground or aboveground tanks, etc.) and/or hazardous waste (including oil/water separators, waste oil, asbestos-containing material, lead-based paint, ADL, etc.) within or immediately adjacent to the construction area?**
To Be Determined. A hazardous materials study will be conducted to determine the potential for hazardous materials or hazardous waste within or immediately adjacent to the construction area.
10. **Does the project have the potential to impact water resources (rivers, streams, bays, inlets, lakes, drainage sloughs) within or immediately adjacent to the project area?**
Yes. The proposed project has the potential to impact water resources (rivers, streams, bays, inlets, lakes, drainage sloughs) within or immediately adjacent to the project area. Roselle Canyon is a tributary to Carroll Creek and Rose Canyon is a tributary to Rose Creek.
11. **Is the project within a designated sole-source aquifer?**
No. The proposed project site is not located within one of the three sole-source aquifers within California; one in Fresno County; the Santa Margarita Aquifer in Scotts Valley, Santa Cruz county; and the Campo/Cottonwood Creek Aquifer in butte County.
12. **Is the project within the State Coastal Zone, San Francisco Bay, or Suisun Marsh?**
Yes. The proposed project is within an area regulated by the State Coastal Zone Management Agency. Specifically, the proposed Sorrento Valley segment is located within jurisdiction of the California Coastal Commission.

13. **Is the construction area located within a regulatory floodway or within the base floodplain (100-year) elevation of a watercourse or lake?**
Yes. The proposed project will encroach on the base (100-year) floodplain. Portions of the proposed segments along Sorrento Valley Road, Roselle Street, and in Rose Canyon below Nobel Drive are within the 100-year floodplain.
14. **Is the project within or immediately adjacent to a Wild and Scenic River System?**
No. According to the National Park Service's most recent regional list of Wild and Scenic Rivers, the proposed project is not within or adjacent to a designated wild and scenic river.
15. **Is there a potential for a federally listed threatened or endangered species, or their critical habitat or essential fish habitat to occur within or adjacent to the construction area?**
Yes. There is a potential for a federally listed threatened or endangered species, or their critical habitat to be located within or adjacent to the construction area. Rose and Roselle Canyons are potential habitat for the California Gnatcatcher. Rose Canyon is also potential habitat for the San Diego Fairy Shrimp.
16. **Does the project have the potential to directly or indirectly affect migratory birds, or their nests or eggs (such as vegetation removal, box culvert replacement/repair, bridgework, etc.)?**
Yes. Rose and Roselle Canyons are potential habitat for migratory birds. A NES will be performed to determine the potential to directly or indirectly affect migratory birds, or their nests or eggs (such as vegetation removal, box culvert replacement/repair, bridgework, etc.).
17. **Is there a potential for wetlands to occur within or adjacent to the construction area?**
Yes. The proposed project construction area is potentially within a wetland. Proposed segments through Roselle and Rose Canyons cross some minor drainages that contain wetlands.
18. **Is there a potential for agricultural wetlands to occur within or adjacent to the construction area?**
No. There are no agricultural lands within or immediately adjacent to the proposed alignment. Therefore, no agricultural wetlands will be affected.
19. **Is there a potential for the introduction or spread of invasive plant species?**
Yes. There are is the potential for the introduction or spread of invasive plant species.
20. **Are there any historic sites or publicly owned public parks, recreation areas, or wildlife or waterfowl refuges [Section 4(f)] within or immediately adjacent to the construction area?**
Yes. There are open space/recreation areas within or immediately adjacent to the project construction area. A Section 4(f) analysis will be performed to determine if there are Section 4(f) resources that will be impacted within or immediately adjacent to the construction area.
21. **Does the project have the potential to affect properties acquired or improved with Land and Water Conservation Fund Act [Section 6(f)] funds?**
No. The project does not have the potential to affect properties acquired or improved with Land and Water Conservation Fund Act [Section 6(f)] funds.
22. **Does the project have the potential to affect any visual or scenic resources?**
Yes. The proposed project has the potential to effect aesthetically visual resources within the region. The Roselle and Rose Canyon segments will likely involve cut and fill structures with associated retaining walls and new lighting components.
23. **Will the project require the relocation of residential or business properties?**
No. The proposed project will not require the relocation of residential or business properties.
24. **Will the project require any right of way, including partial or full takes? Consider construction easements and utility relocations.**
Yes. The proposed project will require right of way acquisition. A right of way study will be required to determine the amount of right of way (partial or full takes). Right of way engineering plans will be designed and reviewed along with right of way maps.

25. **Is the project inconsistent with plans and goals adopted by the community?**
To be determined. The proposed project has the potential to be inconsistent with local plans and goals. A community impact technical memorandum will be performed to determine the impact with community goals.
26. **Does the project have the potential to divide or disrupt neighborhoods/communities?**
No. The proposed project does not have the potential to divide or disrupt neighborhoods/communities.
27. **Does the project have the potential to disproportionately affect low-income and minority populations?**
No. The proposed project does not have the potential to disproportionately affect low-income and minority populations.
28. **Will the project require the relocation of public utilities?**
To be determined. The proposed project may have the potential to require the relocation of public utilities.
29. **Will the project affect access to properties or roadways?**
To be determined. The proposed project may have the potential to affect access to properties or roadways.
30. **Will the project involve changes in access control to the State Highway System (SHS)?**
No. The proposed project will not involve a change in access control to the SHS because there are no highways involved.
31. **Will the project involve the use of a temporary road, detour, or ramp closure?**
No. As a result of the proposed project, no changes to local traffic patterns (short or long-term) will occur because no temporary roads, detours or ramp closures are anticipated.
32. **Will the project reduce available parking?**
No. The proposed project will not change the number and/or location of parking spaces (either temporarily or permanently).
33. **Will the project construction encroach on state or federal lands?**
No. The proposed project construction will not encroach on state and federal lands. Although, the proposed Sorrento Valley segment is adjacent to Los Penasquitos Lagoon, which is part of the Torrey Pines State Reserve, it is not anticipated that there will be any adverse environmental impacts to Los Penasquitos Lagoon.
34. **Will the project convert any farmland to a different use or impact any farmlands?**
No. The proposed project will not convert any farmland to a different use and is not located immediately adjacent or within prime or unique farmlands.
35. **Is there National Register listed, or potentially eligible historic properties, or archaeological resources within or immediately adjacent to the construction area? (Note: Caltrans PQS answers question #35)**
36. **Is the project adjacent to, or would it encroach on Tribal land?**
No. The proposed project is not adjacent to nor would it encroach upon Tribal land.

Distribution 1) Original - DLAE, 2) Local Agency Project Manager, 3) DLA Environmental Coordinator
 4) Senior Environmental Planner (or designee), 5) District PQS




Updated: 05/15/08



PROJECT AREA

Pacific Ocean

MEXICO

	SOURCES: SANDAG (Freeways, County Boundary, Lakes, Elevation 2005); SanGIS (Highways 2007); TIGER (Cities 2000).			REGIONAL MAP COASTAL RAIL TRAIL		
		4 0 4 8 Miles 		CREATED BY: MS	DATE: 06-23-09	FIG. NO:
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LEGEND

- Alignment
- Railroads

SOURCES:
 AirPhotoUSA (aerial image Jan. 2005);
 Sandag (road labels 2006).

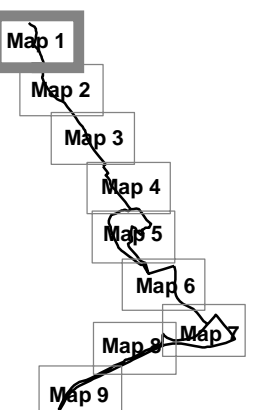
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**PROJECT LOCATION MAP
 COASTAL RAIL TRAIL**

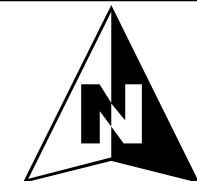
CREATED BY: MS	DATE: 06-23-09	FIG. NO:
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OVERVIEW MAP



LEGEND

- Area within which trail will be located
- Alignment



SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL

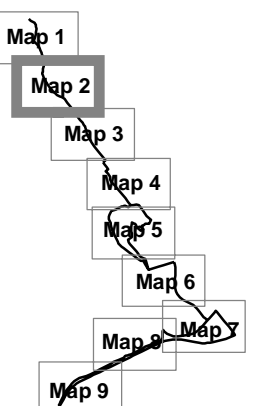


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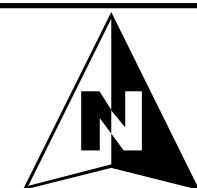
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OVERVIEW MAP



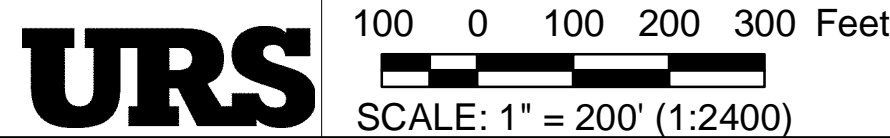
LEGEND

- Area within which trail will be located
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SOURCES: AirPhotoUSA (aerial Jan. 2005).

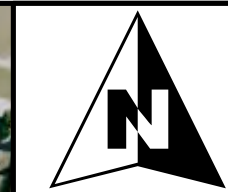
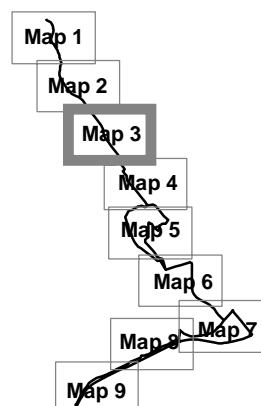
PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL



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OVERVIEW MAP



SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL

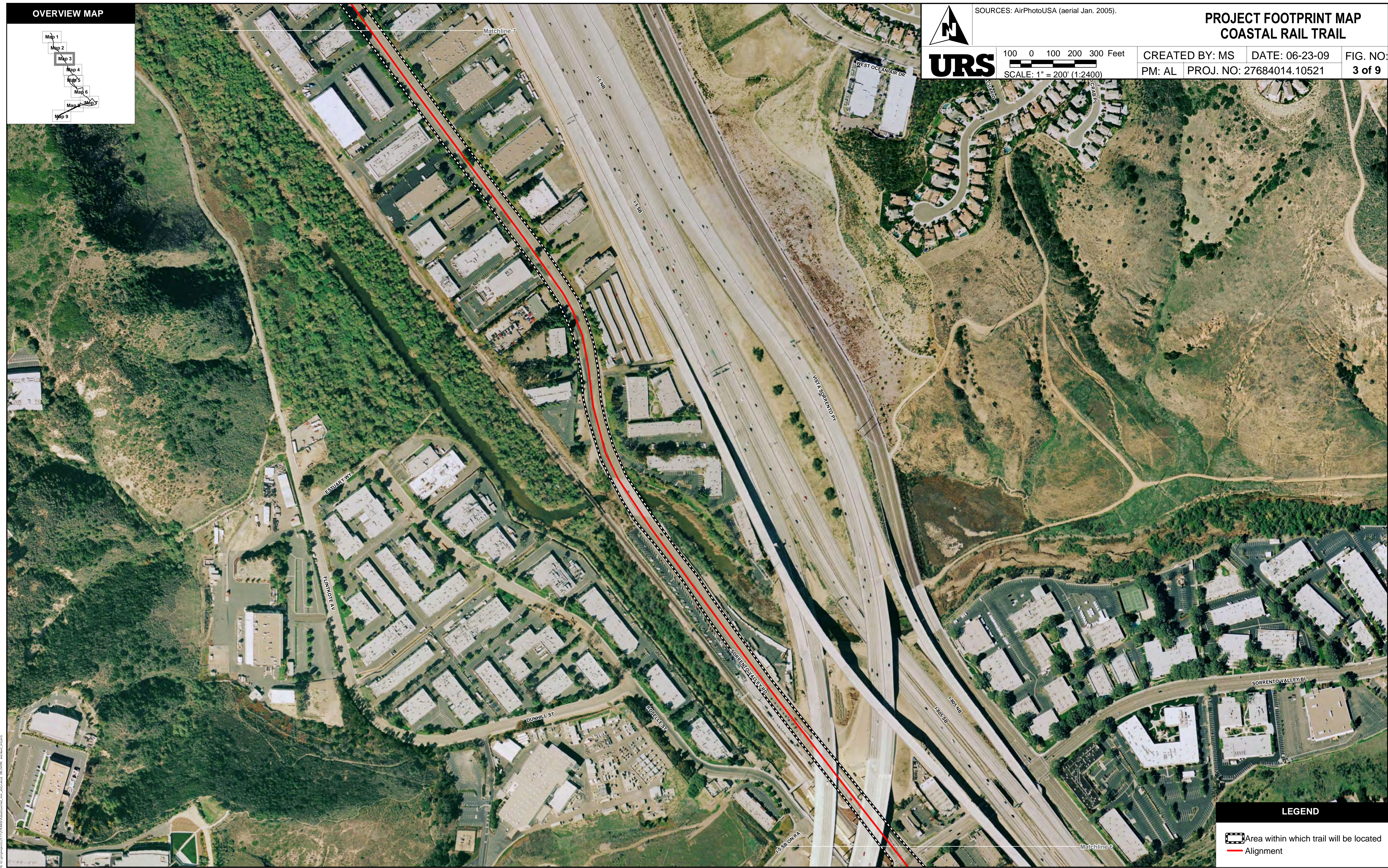


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FIG. NO:
3 of 9

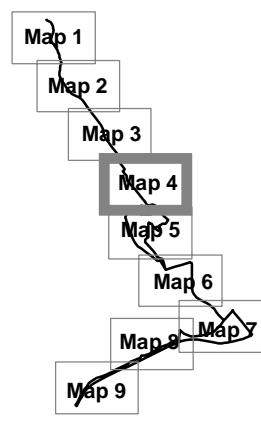


LEGEND

- Area within which trail will be located
- Alignment

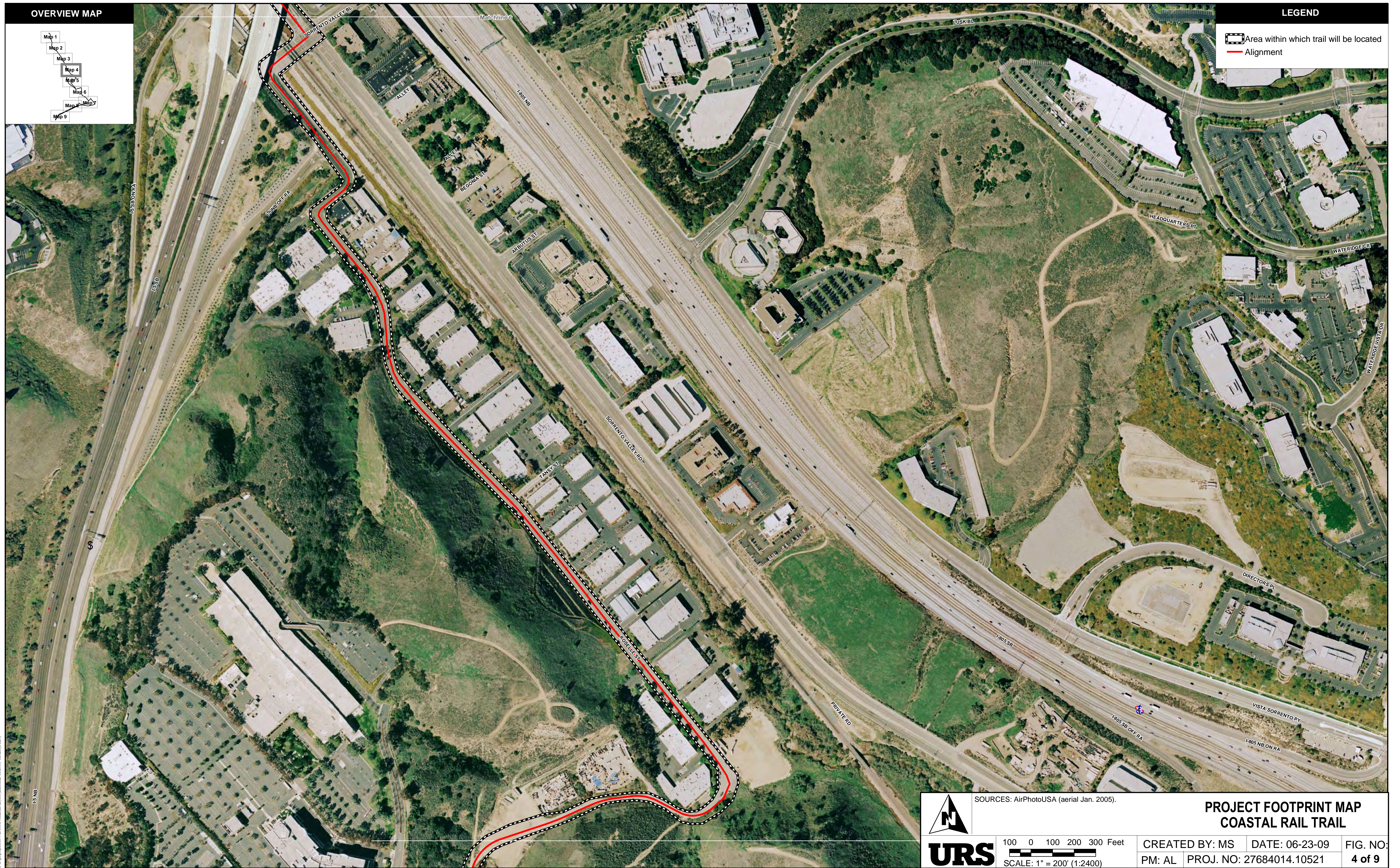
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OVERVIEW MAP



LEGEND

- Area within which trail will be located
- Alignment



SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL

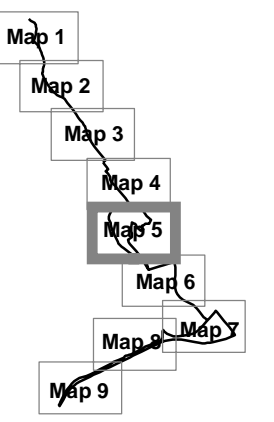


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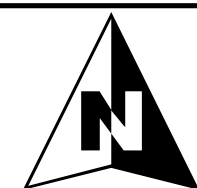
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OVERVIEW MAP



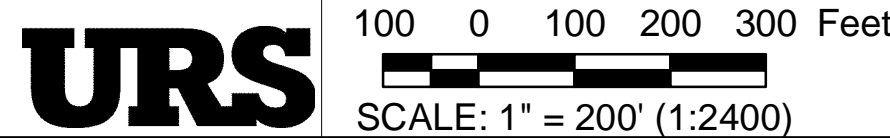
LEGEND

-  Area within which trail will be located
-  Alignment



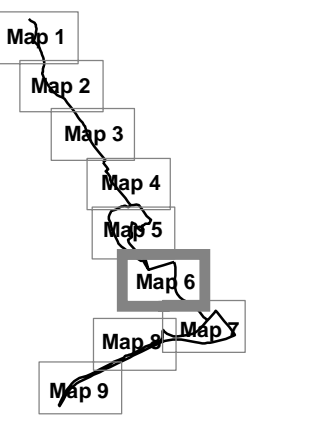
SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL



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LEGEND

- Area within which trail will be located
- Alignment



SOURCES: AirPhotoUSA (aerial Jan. 2005).

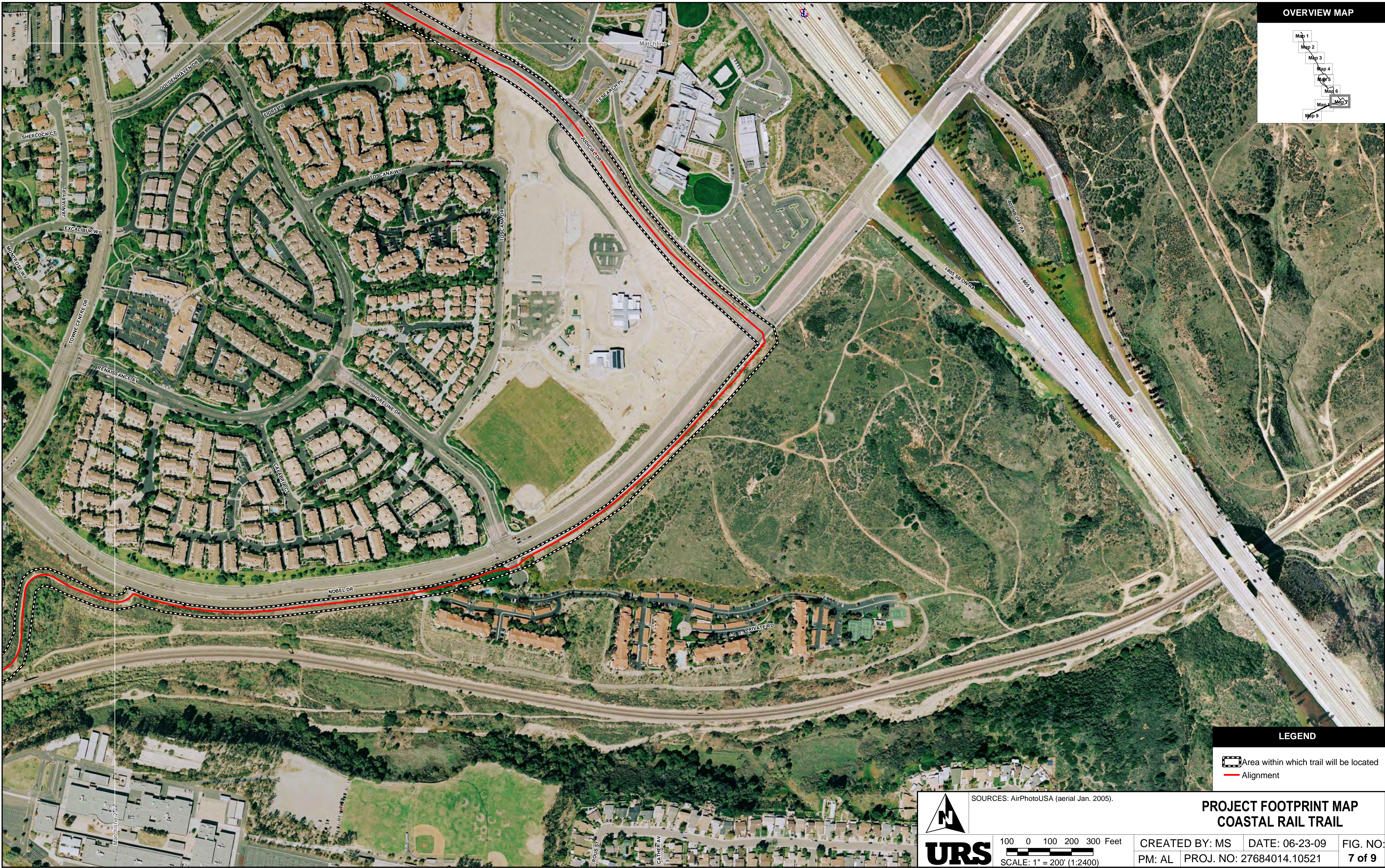
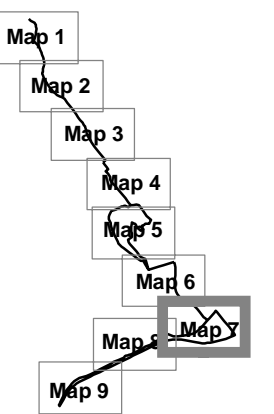
PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL



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OVERVIEW MAP

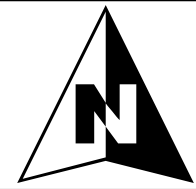


LEGEND

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SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL



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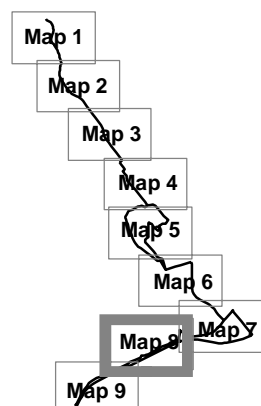
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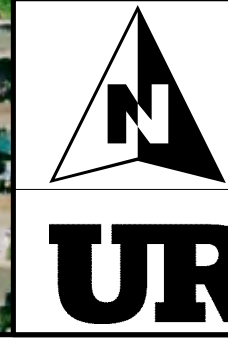
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OVERVIEW MAP



LEGEND

-  Area within which trail will be located
-  Alignment



SOURCES: AirPhotoUSA (aerial Jan. 2005).

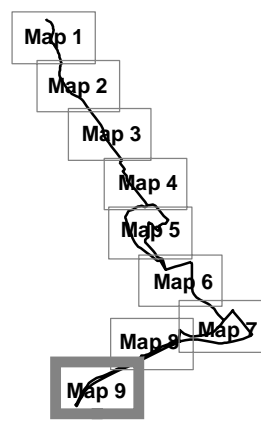
PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL

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OVERVIEW MAP

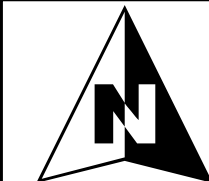


LEGEND

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-  Alignment

SOURCES: AirPhotoUSA (aerial Jan. 2005).

PROJECT FOOTPRINT MAP
COASTAL RAIL TRAIL



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Interstate 5/Genesee Avenue Interchange Reconstruction Project

SAN DIEGO COUNTY, CALIFORNIA
DISTRICT 11 – SD – 05, KP R46.1/R49.1 (PM R28.6/R30.5)
EA 022330; PI 1100000012; SCH No. 2010091064
Federal Project No. HPLU 5004(145)

Initial Study with Mitigated Negative Declaration / Environmental Assessment with Finding of No Significant Impact



Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.



June 2011

GENERAL INFORMATION ABOUT THIS DOCUMENT

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to California Department of Transportation, Attn: Shay Lynn Harrison, Senior Environmental Planner, 4050 Taylor Street, San Diego, CA 92110; (619) 688-0190 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

It should be noted that at a future date, the California Department of Transportation (Caltrans), acting through the Federal Highway Administration (FHWA), may publish a notice in the Federal Register, pursuant to 23 U.S.C. §139(I), indicating that a final action has been taken on this program by Caltrans. If such a notice is published, a lawsuit or other legal claim would be barred unless it is filed within 180 days after the date of the publication of the notice (or within such shorter time period as is specific in the federal laws pursuant to which judicial review of the federal agency action is allowed). If no notice is published, then the lawsuit or claim can be filed as long as the periods of time provided by other federal laws that govern claims are met.

Reconstruction of the Interstate 5/Genesee Avenue interchange and related improvements to the freeway, on- and off-ramps, and the Voigt Drive overcrossing, and realignment of a portion of Gilman Drive, from KP R46.1 (PM R28.6) to R49.1 (PM R30.5)

**INITIAL STUDY with Mitigated Negative Declaration /
ENVIRONMENTAL ASSESSMENT with
Finding of No Significant Impact**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation


Date of Approval


Bruce L. April
Deputy District Director, Environmental
District 11
California Department of Transportation

MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with the City of San Diego (City), proposes to improve the Interstate 5 (I-5)/Genesee Avenue interchange and make related improvements to the freeway, on- and off-ramps, Voigt Drive overcrossing, and Gilman Drive (Project).

Determination

Caltrans has prepared an Initial Study for this Project and, following public review, has determined from this study that the Proposed Project would not have a significant effect on the environment for the following reasons:

The Proposed Project would have no effect on agricultural resources, air quality, climate change, community character, cultural resources, geology and soils, growth, hazardous wastes or materials, hydrology and water quality, land use, mineral resources, population and housing, public services, recreation, or utilities and emergency services.

The Proposed Project would have no significant impacts on traffic, aesthetics, biological resources, temporary construction noise, or paleontology because the following measures would reduce potential effects to insignificance:

Traffic

1. A public awareness campaign informing public about the Project and promoting alternate modes of transportation and alternate routes.
2. Motorist information strategies, including portable changeable message signs (PCMSs) and the Caltrans Highway Information Network (CHIN).
3. Incident management, including Construction Zone Enhanced Enforcement Project (COZEED), which includes assistance in moving disabled vehicles and increased California Highway Patrol (CHP) visibility, and additional Freeway Service Patrol.
4. Various construction strategies to minimize traffic disturbance such as determining the best times for lane or ramp closures, a "Delay Clause" that penalizes contractor for failure to reopen lanes as specified, and coordination to avoid conflicts with other projects or special events at nearby businesses, hospitals, of the University of California, San Diego (UCSD).
5. Alternate route strategies may include temporary detours, traffic signal modifications, and adjustments to ramp meters to accommodate diverted traffic.

Aesthetics

1. Development and implementation of a comprehensive landscape concept plan. This plan would be consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect. This plan would include planting and irrigation layouts that specify plant materials and container sizes. Types of landscape features would include:
 - Drought tolerant and sustainable landscape palettes.
 - Trees planted between the freeway traveler's viewpoint and retaining walls taller than 3 meters (m; 10 feet [ft]) tall, where feasible.
 - Vine planting sufficient to cover 90 percent of retaining walls within five years to reduce the visual impact of the walls and to act as a graffiti deterrent.
 - Median oleanders would be replaced where they cannot be preserved.
 - Slopes graded to 2:1 or flatter to sustain landscape planting and irrigation. Grading design and operations would include techniques such as slope rounding, slope sculpting, and variable gradients to mimic the appearance of natural topography. Steeper slopes may be possible if they are serrated and contain benches wide enough to accept plants from 15-gallon containers.
2. Bicycle lanes, pedestrian lighting, wider sidewalks and other urban amenities on the local street sections of structures would be consistent with local Community Plan guidelines and the corridor-wide design themes.
3. Lighting and signage attachments would occur at pilasters or be incorporated in other architectural features and be consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect.
4. Visible sections of retaining walls would receive color and texture treatments consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect.
5. Structure design would be enhanced with architectural features consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect.
6. Retaining walls would be designed to visibly blend with graded slopes using techniques such as slope rounding, slope sculpting, and variable gradients to mimic the appearance of natural topography when feasible.
7. Enhanced landscape plantings, including more densely spaced vines, a wider variety of vines, some with seasonal color, and more trees would be planted in front of the retaining wall on the south side of Genesee Avenue, east of I-5, and the retaining walls on both sides of I-5 south of Genesee Avenue, where possible.

Biological Resources

1. Indirect impacts to sensitive habitats and species shall be mitigated by the implementation of the following measures:

- All sensitive habitats (including non-native grasslands) outside the impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas. Fencing would be installed in a manner that would not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. Fencing would be maintained throughout the construction period to preclude human entry into the Multi-Habitat Planning Area (MHPA). No construction activities, materials, or equipment would be permitted outside the fenced Project footprint. Caltrans would submit the final plans for initial clearing and grubbing of habitat and Project construction to the U.S. Fish and Wildlife Service (USFWS) for approval, at least five days prior to initiating Project impacts (except for impacts resulting from clearing to install temporary fencing). These final plans would include photographs that show the fenced limits of impact and all areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact, all work would cease until the problem has been remedied to the satisfaction of USFWS. Any impacts that occur beyond the approved fenced area would be offset in consultation with USFWS. Temporary construction fencing would be removed upon Project completion.
- Proposed post-construction Best Management Practices (BMPs) would include the use of appropriate devices/techniques such as landscaping/revegetation and vegetated swales/grass strips. Energy dissipaters would reduce the velocity and downstream erosion potential of runoff leaving the Project area and would help maintain pre-development velocity rates. All site design BMPs would reduce long-term urban contaminant generation by minimizing runoff volumes and velocities, removing accumulated contaminants, and increasing infiltration.
- Bioswales would be planted with appropriate species. Slopes adjacent to developed urban areas would be vegetated with native and drought tolerant non-invasive species selected by the landscape architect in coordination with the biologist and others. Interchanges located in urban areas would be landscaped with native or ornamental non-invasive species.
- Drainage from the construction area and new and proposed developed areas in and adjacent to the preserve would not drain directly into the MHPA. Topography of the site is such that MHPA lands directly adjacent to the project are at a higher elevation. The Project would use biofiltration to treat road runoff prior to discharge into receiving water bodies. The use of structural and non-structural BMPs and the restriction of grading and paving activity during significant rain events would reduce potential impacts associated with construction. The project design would comply with Caltrans Municipal Stormwater Permit criteria of the State Water Resources Control Board and the Clean Water Act Section 401 Water Quality Certification issued by the Regional Water Quality Control Board for the Project. Erosion and sediment control devices used for the Project, including fiber rolls and bonded fiber matrix, would be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.
- Caltrans would ensure that the following conditions would be implemented during Project construction:
 - Contractors and construction personnel would strictly limit their activities, vehicles, equipment, and construction materials to the fenced Project footprint;

- The Project site would be kept as clean of debris as possible. All food-related trash items would be enclosed in sealed containers and regularly removed from the site;
 - Pets of construction personnel would not be allowed on the Project site;
 - All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would occur within the fenced Project impacts limits. The changing of oil, refueling, and other actions that could result in a release of a hazardous substance would be restricted to designated areas that are a minimum of 30.5 m (100 ft) from any drainages. Such designated areas would be surrounded with berms, sandbags, or other barriers to further prevent the accidental spill of fuel, oil, or chemicals. Any accidental spills would be immediately contained, cleaned up, and properly disposed;
 - Impacts from fugitive dust would be avoided and minimized through watering and other appropriate measures; and
 - Cut and fill would be balanced within the Project or the construction contractor would identify the source or disposal location. All spoils and material disposal will be disposed of properly.
2. Temporary and permanent impacts to Diegan coastal sage scrub (including disturbed) would be mitigated by implementation of the following mitigation measures:
- Mitigation for temporary impacts to 0.4 ha (1.1 ac) of Diegan coastal sage scrub (including disturbed) would include (1) temporary revegetation on site (at a 1:1 ratio) by hydroseeding with a Diegan coastal sage scrub plant palette and (2) off-site creation of Diegan coastal sage scrub (at a 2:1 ratio). The slopes would be temporarily revegetated until the proposed I-5 North Coast Corridor project is implemented, at which time the final slopes would be permanently revegetated.
 - Mitigation for permanent impacts to 1.9 ha (4.7 ac) of Diegan coastal sage scrub (including disturbed) is proposed at a 2:1 ratio with off-site creation of Diegan coastal sage scrub at the Pardee (Deer Canyon) Mitigation Parcel.

The draft mitigation plan for the Pardee (Deer Canyon) Mitigation Parcel has been reviewed by the resource agencies, and the final draft has been completed and is in review.

A perpetual biological conservation easement or other conservation mechanism acceptable to USFWS would be recorded over the areas preserved, restored, and/or enhanced by the Project at the Pardee (Deer Canyon) Mitigation Parcel. The conservation mechanism would specify that no easements or activities (e.g., fuel modification zones, public trails, drainage facilities, walls, maintenance access roads) that would result in soil disturbance and/or vegetation removal would be allowed within the biological conservation easement areas. Caltrans anticipates that the mitigation parcel would be placed into a conservation easement or other conservation mechanism prior to initiating Project impacts; however, annual reports would be provided on the mitigation parcel's status until the conservation mechanism has been placed.

Caltrans would prepare a perpetual long-term management, maintenance, and monitoring plan (e.g., a Habitat Management Plan [HMP]) for the Pardee (Deer Canyon) Mitigation Parcel. The HMP would include, but not be limited to, the following: method of protecting the resources in perpetuity (e.g., conservation easement), monitoring schedule, measures to prevent human and exotic species encroachment, funding

mechanism, and contingency measures if problems occur. The City has agreed to own and manage the mitigation parcel with a management endowment that would be paid by Caltrans, in accordance with the requirements of the TransNet Memorandum of Agreement. Caltrans would establish a non-wasting endowment in an amount approved by USFWS based on a Property Analysis Record or similar cost estimation method to secure the ongoing funding for the perpetual long-term management, maintenance, and monitoring of the biological conservation easement area by an entity approved by USFWS. Caltrans would submit a draft HMP including a description of perpetual management, maintenance, and monitoring actions, and the Property Analysis Record or other cost estimation results for the non-wasting endowment to USFWS for approval. Caltrans would submit the final HMP to USFWS and transfer the funds for the non-wasting endowments to the appropriate management entities. Caltrans anticipates that preparation of the HMP and transferring of the funds for the non-wasting endowment would not occur prior to initiating Project impacts; however, annual reports would be provided on the status until the final HMP has been provided and the endowment funds have been transferred.

3. Impacts to coyote brush scrub would be minimized by implementation of the following measures:
 - Mitigation for temporary impacts to 0.1 ha (0.2 ac) of coyote brush scrub would include off-site creation of Diegan coastal sage scrub (at a 2:1 ratio) and temporary revegetation on site (at a 1:1 ratio) by hydroseeding with a Diegan coastal sage scrub plant palette. The slopes would be temporarily revegetated until the proposed I-5 North Coast Corridor project is implemented, at which time the final slopes would be permanently revegetated.
 - Mitigation for permanent impacts to 0.3 ha (0.7 ac) of coyote brush scrub is proposed at a 2:1 ratio with off-site creation of Diegan coastal sage scrub at the Pardee (Deer Canyon) Mitigation Parcel.
4. Temporary and permanent impacts to non-native grassland would be minimized by implementation of the following measures:
 - Temporary impact areas would be hydroseeded with native grassland and forb palette for erosion control measures.
 - Mitigation for permanent impacts to 3.5 ha (8.7 ac) of non-native grassland is proposed at a 0.5:1 ratio with off-site preservation of 1.7 ha (4.4 ac) of non-native grassland at the Pardee (Deer Canyon) Mitigation Parcel.
5. Mitigation for temporary (0.02 ha [0.05 ac]) and permanent impacts (0.45 ha [1.12 ac]) to southern willow scrub is proposed at a 3:1 ratio. The southern willow scrub is considered jurisdictional wetland by the California Department of Fish and Game (CDFG). The off-site mitigation for southern willow scrub (including disturbed) would be completed at the Pardee (Deer Canyon) Mitigation Parcel.
6. Mitigation for temporary and permanent impacts to drainage/streambed under U.S. Army Corps of Engineers (Corps) jurisdiction is proposed at a 1:1 ratio. Mitigation for temporary and permanent impacts to Corps jurisdictional wetland would be completed at the Pardee (Deer Canyon) Mitigation Parcel. No net loss of wetlands would occur with the implementation of mitigation. A total of 0.04 ha (0.09 ac) of mitigation would be provided for impacts to Corps jurisdictional area.

7. The following avoidance and minimization measures would minimize impacts to special status animal species and raptors:
 - Temporary and permanent impacts to Diegan coastal sage scrub habitat (including disturbed) would be reduced through the implementation of avoidance and minimization measures described in Measure 2 for Biological Resources.
 - All native vegetation, trees, and large shrubs shall be cleared outside the breeding season of southern California rufous-crowned sparrow, northern harrier and other raptors, and other migratory birds (February 15 through August 31) to avoid breeding birds. If Project construction occurs during the breeding season, pre-construction surveys and avoidance of nesting birds would be required by a biologist approved by USFWS. If nesting southern California rufous-crowned sparrow, northern harrier or other raptor, or other migratory birds are observed/detected within the Project limits, construction would not be permitted to commence until the conclusion of the breeding season (August 31), or until all young have fledged. No direct impacts to nests are allowed during the breeding season.
 - All lighting (including night lighting during construction) installed in the vicinity of the MHPA, native vegetation communities, and/or other open space areas would be directed away or shielded to prevent light overspill. Streetlights would be low-intensity and shielded to minimize illumination of the adjacent habitat. Night lighting of construction areas would be of the lowest illumination necessary for human safety, selectively placed, shielded, and directed away from natural habitats.

8. Implementation of the following avoidance and minimization measures would reduce direct and indirect impacts to coastal California gnatcatcher:
 - Temporary and permanent impacts to gnatcatcher habitat would be reduced through the implementation of avoidance and minimization measures described in Measures 2 and 3 for Biological Resources.
 - All native vegetation, trees, and large shrubs shall be cleared outside the coastal California gnatcatcher and migratory bird breeding season (February 15 through August 31) to avoid breeding birds. If ornamental vegetation clearing occurs during the breeding season pre-construction surveys and avoidance of nesting birds would be required by a biologist approved by USFWS. If nesting gnatcatchers are observed/detected within a proposed impact area, on-site clearing would be suspended until the end of the breeding season (August 31), or until all young have fledged. No direct impacts from Project operations (post construction) to nests are allowed during the breeding season.
 - A biologist would be present on site during initial clearing and grubbing, as well as weekly during Project construction located within 152 m (500 ft) of off-site gnatcatcher habitat to ensure compliance with all conservation measures. The Project biologist would be familiar with the habitats, plants, and wildlife in the Project area to ensure that issues relating to biological resources are appropriately and lawfully managed.
 - To minimize construction noise impacts to nesting gnatcatchers, all pile driving for the Project that would occur near habitats that support gnatcatchers would be conducted between September 1 and February 14 to avoid the gnatcatcher breeding

season (or sooner than September 1 if the Project biologist can demonstrate to the satisfaction of USFWS that all nesting is complete).

9. Implementation of the following avoidance and minimization measures would reduce impacts associated with invasive species:
 - A qualified biologist would review the Project landscape concept plans to ensure that no invasive species (as listed in the California Invasive Plant Inventory) are included.
 - A biological monitor would educate construction crews (prior to construction) on the benefits of cleaning equipment prior to ingress and egress.
 - Upon completion of grading, all areas of temporary disturbance would be revegetated with native species or ornamental landscaping to limit colonization by invasive species.
 - Following installation of revegetation and landscaping, such areas would be monitored and maintained to minimize invasive species.
 - In compliance with Executive Order 13112, and subsequent guidance from the FHWA, the landscaping and erosion control included in the Project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or adjacent to the construction areas. Such precautions could include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Noise

To avoid unnecessary annoyances from construction noise, the following construction noise control measures would be implemented:

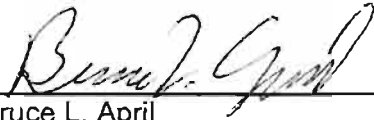
- Compliance with Caltrans' Standard Specifications 7-1.011 (2006d) Sound Control Requirements. "The contractor would comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, would be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine would be operated on the project without said muffler."
- Idling equipment would be turned off.
- A noise-control monitoring program would be implemented to limit the impacts.
- Noisier operations would be performed during the times least sensitive to receptors.

Paleontology

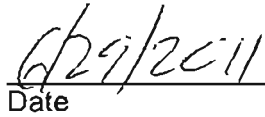
1. The following mitigation measures would effectively avoid or address potential impacts to paleontological resources from the Project.
 - A qualified principal paleontologist (Master of Science [M.S.] or Doctor of Philosophy [Ph.D.] in paleontology or geology familiar with paleontological procedures and techniques) would be retained to be present at pre-grading meetings to consult with grading and excavation contractors.
 - A paleontological monitor, under the direction of the qualified principal paleontologist, would be on site to inspect cuts for fossils at all times during original grading

involving sensitive geologic formations. As grading progresses, the qualified paleontologist and paleontological monitor would have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources are lower than anticipated.

- When fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner. During the monitoring and recovery phases, the paleontologist (or paleontological monitor) would routinely collect stratigraphic data to provide a stratigraphic context for any recovered fossils.
- During the monitoring and recovery phases, the paleontologist (or paleontological monitor) would routinely collect stratigraphic data to provide a stratigraphic context for any recovered fossils.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted and cataloged.
- Prepared fossils, along with copies of all pertinent field notes, photos and maps, would then be deposited in a scientific institution with paleontological collections.
- A final report would be completed that outlines the results of the mitigation program.



Bruce L. April
Deputy District Director, Environmental
District 11
California Department of Transportation



Date

CALIFORNIA DEPARTMENT OF TRANSPORTATION

FINDING OF NO SIGNIFICANT IMPACT

FOR

Interstate 5/Genesee Avenue Interchange Reconstruction Project

The California Department of Transportation (Caltrans) has determined that the Build Alternative will have no significant impact on the human environment. This Finding of No Significant Impact (FONSI) is based on the attached Environmental Assessment (EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA (and other documents as appropriate).

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

6/29/2011

Date of Approval

Bruce L. April

Bruce L. April
Deputy District Director, Environmental
District 11
California Department of Transportation

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SUMMARY

SUMMARY

S.1 INTRODUCTION

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), and in cooperation with the City of San Diego (City), proposes to improve the Interstate 5 (I-5)/Genesee Avenue interchange and make related improvements to the freeway, on- and off-ramps, Voigt Drive overcrossing, and Gilman Drive. The proposed I-5/Genesee Interchange Reconstruction Project is hereafter referred to as "Project." Caltrans is the lead agency for California Environmental Quality Act (CEQA) compliance and for National Environmental Policy Act (NEPA) compliance of the Project pursuant to 23 U.S.C. 327.

The Project is included in the San Diego Association of Governments (SANDAG) 2030 San Diego Regional Transportation Plan: Pathways for the Future (2030 RTP) adopted on November 30, 2007 (SANDAG 2007) and the Financially Constrained 2010 Regional Transportation Improvement Program (2010 RTIP) adopted on December 14, 2010 (SANDAG 2010). The total project cost (in 2010 dollars) is estimated at \$145 million pursuant to 23 U.S.C. 327.

S.2 OVERVIEW OF PROJECT STUDY AREA

The Project study area encompasses a segment of the I-5 corridor that extends approximately 3.0 kilometers (km; 1.9 miles [mi]) between the La Jolla Village Drive northbound on-ramp/southbound off-ramp to the south at kilometer post (KP) R46.1 (post mile [PM] R28.6) and the Sorrento Valley Road interchange to the north at KP R49.1 (PM R30.5), a segment of Genesee Avenue that extends approximately 1.0 km (0.6 mi) from Science Center Drive to the Scripps Memorial Hospital entrance driveway, a segment of Voigt Drive that extends approximately 0.5 km (0.3 mi) in length, and a segment of Gilman Drive that extends approximately 0.3 km (0.2 mi) in length.

The Project site is located in western San Diego County, within the City's University City Community Plan area, which is located in the central western portion of the City. The Project site is approximately 2.4 km (1.5 mi) east of the Pacific Ocean and 5.5 km (3.4 mi) north of State Route 52. The Project area includes a portion of I-5, a major north-south freeway. Within the Project study area, I-5 is an eight-lane divided freeway with four lanes in each direction that are each 3.6 meters (m; 12 feet [ft]) in width. The inside shoulders are approximately 2.4 m (8 ft) wide, while the outside shoulders are approximately 3.0 m (10 ft) wide. The existing median is approximately 5.9 m (19 ft) wide and is unpaved beyond the shoulders. The horizontal alignment of I-5 is relatively straight between La Jolla Village Drive and Genesee Avenue and then curves gently to the east, north of Genesee Avenue. The vertical alignment of the freeway slopes upward at a 1.6-percent grade from La Jolla Village Drive to just south of the Voigt Drive overcrossing, and then slopes downward at a 3-percent grade to the north end of the Project study area.

S.3 PURPOSE AND NEED

Purpose of the Project

The purpose of the Project is to:

- Complete the continuity of Genesee Avenue as a six-lane primary arterial facility from North Torrey Pines Road to Regents Road, as identified in the University Community Plan
- Improve traffic flow and reduce congestion on Genesee Avenue and at the I-5/Genesee Avenue interchange
- Provide improvements of sufficient length to effectively address environmental matters and traffic concerns
- Not preclude the ultimate I-5 freeway condition¹
- Allow the widened Genesee Avenue overcrossing to meet current Caltrans standards for vertical clearance
- Improve general access and mobility within the University area, including bike and pedestrian access at the I-5/Genesee Avenue interchange

Need for the Project

The need for the Project arises from freeway, roadway, and intersection current capacities, which are mostly unacceptable; future transportation demands; a roadway that is not up to current Caltrans and City standards; and modal interrelationships and system linkages, as discussed in this section.

Capacity and Transportation Demand

The I-5/Genesee Avenue interchange currently experiences considerable congestion during peak-hour periods, resulting in unacceptable levels of service (LOS) and congested conditions. The terminology "level of service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations that are related to empirical values associated with the roadway or intersection capacity. LOS is a measure developed in the Highway Capacity Manual as a means for documenting the performance of roadways and intersections. LOS A is defined as excellent while LOS F is defined as poor or unacceptable. LOS E and F are unacceptable for the City of San Diego. Vehicle queues at both I-5 ramp intersections with Genesee Avenue currently exceed storage lengths of lanes during morning, midday, and evening peak hours. These queues impede traffic flows and contribute to congestion in the Project area. In addition, the segment of Genesee Avenue between the southbound I-5 ramps and the northbound I-5 ramps currently operates at an unacceptable LOS.

Existing operations at the Genesee Avenue interchange are not up to current Caltrans and City standards and will worsen over time as a result of growth and associated traffic volume increases in the Project area. Specifically, the San Diego County region is anticipated to

¹ The ultimate configuration for this segment of I-5, after the implementation of the Proposed Project and the full implementation of the I-5 North Coast Corridor project, would consist of one high-occupancy vehicle lane, one auxiliary lane, and five general purpose lanes in each direction as indicated in the ultimate layout plan for the I-5 North Coast Corridor project.

increase from a population of approximately 3.1 million in 2004 to 4.0 million in 2030 and the University community is expected to increase from a population of approximately 54,100 in 2007 to 61,300 in 2030 (SANDAG 2008). The following paragraph highlights how the Project area is not up to current Caltrans and City standards using Year 2030 No Build conditions as an example.

According to the Traffic Operational Analysis (2008), under the Year 2030 No Build conditions, both I-5 intersections with Genesee Avenue would operate at LOS F with significant delays during the morning and evening peak periods. Both intersections would operate at approaching or above capacity during morning, mid-day, and evening peak hours based on intersection lane vehicle (ILV) methodology. Also under Year 2030 No Build conditions, all ramp merge/diverge locations would operate at LOS F in at least one of the peak periods analyzed. The segment of Genesee Avenue between the southbound I-5 ramps and northbound I-5 ramps would operate at LOS F. Lastly, in the Year 2030 No Build conditions, both the mainline and weaving² volumes would be over capacity for the southbound I-5 weave in the morning and evening peak periods and for the northbound I-5 weave in the evening peak period. Only the weaving volumes would be over capacity for the northbound I-5 weave in the morning peak period, instead of the mainline and weaving volumes being over capacity as in the previously discussed scenarios.

Roadway Deficiencies

The Project proposes to widen the Genesee Avenue overcrossing structure to increase the roadway LOS to current City standards. The existing Genesee Avenue overcrossing structure has a vertical clearance of 4.6 m (15.2 ft). This vertical clearance does not meet current Caltrans' standards. Current standards require a vertical clearance of 5.1 m (16.5 ft). Due to this existing vertical shortage, any widening of the existing structure would also not meet vertical clearance standards. Therefore, the Project proposes to replace the existing bridge with a wider structure that conforms to Caltrans' vertical clearance standards. The new overcrossing would be increased from 23.2 m (76.1 ft) to 47.2 m (154.9 ft) in width. Additionally, the existing overcrossing structure is not long enough to span the ultimate width of the planned I-5 widening improvements. Such freeway widening improvements would not occur as part of the Project, but are planned by Caltrans as a separate future project. Therefore, the proposed structure would be lengthened from 73.3 m (240.5 ft) to 91.8 m (301.2 ft), which would not preclude the ultimate I-5 freeway condition. The increased structure length would increase the depth of the structure. The increased structure depth and the current non-standard vertical clearance, combined with the need to maintain falsework clearance during construction and maintain current vertical clearance requirements in the future if I-5 is widened, require that the profile along Genesee Avenue be raised. The height of the bridge deck would be increased from 6.1 m (20.0 ft) to 10.3 m (33.8 ft) and the proposed vertical clearance when this Project is complete would be 6.8 m (22.2 ft). The vertical clearance would be decreased if I-5 is widened in the future, but would continue to meet current vertical clearance requirements.

Modal Interrelationships and System Linkages

The Project area has a large concentration of business/employment land uses in the region. Maintaining or improving the accessibility of and mobility within this area is essential to the continued economic health of the region. Genesee Avenue is designated as a Regionally

² Weaving is defined as the crossing of two or more traffic streams traveling in the same general direction along a significant length of highway.

Significant Arterial by SANDAG and is part of the Regionally Significant Transportation Network, which consists of interstate freeways, state highways, arterial corridors, and regional transit services, as well as arterial streets that accommodate larger volumes of traffic. All of these multi-modal facilities and services are considered essential to meeting the mobility and accessibility goals of the region. The Project would include the appropriate length of roadway and freeway improvements considering the existing and anticipated future environmental and traffic conditions of the regional transportation network. Specifically, the Project would be of sufficient length to provide a connecting link to facilitate traffic circulation between the east and west sides of I-5. The length of the Genesee Avenue overcrossing would allow for anticipated future freeway widening.

In addition, the Project would allow for future planned improvements to the transportation system, and would not preclude the ultimate I-5 freeway condition. Project features have been designed to be compatible with and allow for such future planned improvements in the Project area. Proposed overcrossings, ramp improvements, auxiliary lanes, and road improvements would provide for the ultimate improved I-5 configuration, inclusive of High Occupancy Vehicle (HOV) lanes. Additionally, bicycle and pedestrian facilities are proposed that would be consistent with planned multi-modal transportation facilities and goals in the Project area.

S.4 PROJECT DESCRIPTION

Proposed Build Alternative (Project)

The Project would reconstruct the I-5/Genesee Avenue interchange to accommodate widening of Genesee Avenue and meet vertical clearance requirements for the overcrossing. Construction of the Project would not preclude the ultimate I-5 freeway condition. The Project would replace the existing Genesee Avenue four-lane overcrossing with a new six-lane overcrossing. The new overcrossing structure would be wider, longer, and higher than the existing structure, and would be shifted slightly to the north (the centerline would shift approximately 16.1 m [53 ft]) so that the existing overcrossing could continue to carry traffic during construction of the new overcrossing. The four ramps at the Genesee Avenue interchange also would be widened and lengthened to accommodate increased (future year [2030]) traffic flows and the proposed overcrossing structure.

The Project includes the addition of auxiliary lanes in both directions between the Genesee Avenue ramps and the adjacent ramps for La Jolla Village Drive and Sorrento Valley Road. A ramp meter would be installed at the Sorrento Valley Road southbound on-ramp to control the volume of potential weaving traffic coming from Sorrento Valley Road during peak periods. Along with the ramp meter, two additional lanes would be added, including an HOV bypass. One additional lane would be added to the Sorrento Valley Road northbound off-ramp.

Implementation of the auxiliary lanes between Genesee Avenue and La Jolla Village Drive would require replacement of the Voigt Drive overcrossing. The Voigt Drive overcrossing structure would be designed such that it does not preclude implementation of other currently planned roadway and transit improvements at that location. The future projects that are currently being planned are the ultimate widening of I-5 and direct access ramps³ under the proposed I-5 North Coast Corridor project and a Light Rail Transit (LRT) crossing of I-5 adjacent to Voigt Drive under the Mid-Coast Corridor project. To account for these future projects, the

³ Direct access ramps provide direct access from roadways to high-occupancy vehicle lanes in the center of the freeway.

Voigt Drive overcrossing would be lowered, lengthened, and widened. The existing Voigt Drive overcrossing has a vertical clearance of 9.1 m (29.8 ft), which is higher than the required vertical clearance of 5.1 m (16.5 ft). The Project proposes to lower the profile of Voigt Drive and provide a 6.0 m (19.7 ft) vertical clearance. Lowering the profile of the Voigt Drive overcrossing would allow for improved profile geometry on the planned direct access ramps that would tie into the Voigt Drive overcrossing. Lowering the profile of the Voigt Drive overcrossing also would allow for the planned LRT crossing of I-5 to be grade separated from the planned direct access ramps. The new structure also would be longer to account for the future planned widening of I-5 under the proposed I-5 North Coast Corridor project and an LRT crossing of I-5 adjacent to Voigt Drive under the Mid-Coast Corridor project. The new Voigt Drive overcrossing would be constructed slightly to the north (the centerline would shift approximately 11.2 m [36.7 ft]) so that the existing overcrossing could continue to carry traffic during construction of the new overcrossing. The Project also includes realignment of a portion of Gilman Drive and modifications to its intersection with Voigt Drive.

The Project would be designed to accommodate pedestrian and bicycle traffic, as well as vehicular traffic, within the Project corridor. The proposed overcrossing structure would include a Class II bike lane⁴ that is 1.8 m (6 ft) wide in each direction. The City of San Diego Bicycle Master Plan also identifies an existing Class III bike route⁵ along the shoulders of I-5 connecting Genesee Avenue and Sorrento Valley Road. The proposed interchange improvements would include a two-way Class I bike path⁶ along the southbound I-5 shoulder with a barrier separating the bike path from the vehicular traffic. Accordingly, the proposed improvements would include a bicycle and pedestrian link between the eastern and western sides of I-5 and would be consistent with planned multi-modal transportation facilities and goals in the Project area.

Both the Genesee Avenue and Voigt Drive overcrossings would be improved for bicyclist and pedestrian access and operations. The Genesee Avenue interchange would include a sidewalk that is 2 m (6.6 ft) wide on the north side of Genesee Avenue, bike lanes in both directions, striped/signalized pedestrian crossings and Americans with Disabilities Act- (ADA-) compliant pedestrian ramps at each intersection. The Voigt Drive overcrossing would include sidewalks and bike lanes. Existing free-right turns at the Genesee Avenue interchange would be removed to avoid conflicts with pedestrian and bicycle traffic.

The Project also would involve the relocation of existing utilities that are located on the Genesee Avenue and Voigt Drive overcrossings. These utilities would be re-installed on the replacement overcrossings.

It is anticipated that construction staging would occur in a disturbed area between the Sorrento Valley Road southbound on-ramp and the I-5 freeway that was previously used for construction staging for the I-5/Interstate 805 (I-805) merge. Other construction staging areas and access routes would be located within disturbed or developed areas within Caltrans right-of-way (R/W).

It is anticipated that construction of the Project would not require borrow. A portion of the excess soil would be used as an earthen buttress to stabilize an ancient landslide in the northwest quadrant of the I-5/Genesee Avenue interchange as part of this Project. The

⁴ A Class II bike lane shares the right-of-way with a roadway or walkway. It is indicated by a bikeway pictograph on the pavement and a continuous stripe on the pavement or separated by a continuous or intermittent curb or other low barrier.

⁵ A Class III bike route shares the right-of-way with a roadway or walkway. It is not indicated by a continuous stripe on the pavement or separated by any type of barrier, but it is identified as a bikeway with signs.

⁶ A Class I bike path is intended for the exclusive use of bicycles. While it may parallel a roadway, it is physically separated by distance or a vertical barrier.

remainder of the excess soil would be disposed of off site in accordance with Caltrans' standard specifications.

The Project would be landscaped in accordance with the measures identified in the Visual Impact Analysis and the proposed I-5 North Coast Corridor Project Design Guidelines. Architectural features, textures, integral concrete colors, and the creative use of materials would be used in the Project to create shadow lines and relief, and to reduce apparent scale. Enhanced surface materials such as mosaic tile and weathering steel may also be used if it meets the community design goals. Trees, shrubs, and vines would be used to provide erosion control and to prevent graffiti.

It is anticipated that the Proposed Project would be constructed in two phases. The first phase would include reconstruction of the I-5/Genesee interchange, the addition of auxiliary lanes north of Genesee Avenue, and improvements to the Sorrento Valley Road on- and off-ramps. The second phase of Project construction would include the addition of auxiliary lanes south of Genesee Avenue, replacement of the Voigt Drive overcrossing, and realignment of Gilman Drive. Per the Traffic Management Plan, construction phases would be split up into stages. Phase 1 (construction of the I-5/Genesee Avenue interchange) would include four stages and Phase 2 (construction of Voigt Drive and Gilman Drive) would include three stages. Stages would be coordinated to minimize impacts to traffic flows. Construction of the first phase is anticipated to begin in 2014 and to be completed in 2016. Construction of the second phase would begin between 2015 and 2020 to coincide with the schedule for the proposed I-5 North Coast Corridor project and is expected to last two years.

No Build Alternative

Under the No Build Alternative, none of the proposed improvements would be implemented, and the I-5/Genesee Avenue interchange would remain in its current configuration. This alternative would not address the fact that existing and projected operations at the Genesee Avenue interchange are not up to Caltrans and City standards. It is expected that current and future development in the area would generate traffic volumes far beyond what the I-5/Genesee Avenue interchange can accommodate in its existing configuration. The Project, which is consistent with regional goals in SANDAG's Regional Comprehensive Plan (RCP) and planned transportation facilities within the University City community and along the I-5 corridor, would not be implemented, and existing congestion would be exacerbated through growth planned in the City and in the region in general.

S.5 PERMITS AND APPROVALS NEEDED

The following permits, reviews, and approvals would be required for Project construction:

Agency	Permit/Approval	Status
California Coastal Commission	Consolidated Coastal Development Permit	Pending
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation for threatened and endangered species	Completed
United States Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit	Pending

Table S-1 (cont.) REQUIRED PERMITS AND APPROVALS		
Agency	Permit/Approval	Status
California Department of Fish and Game	Section 1602 Streambed Alteration Agreement	Pending
San Diego Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification	Pending
	Conformance with General Groundwater Extraction Waste Discharge Permit	Pending
State Water Resources Control Board (SWRCB)	Conformance with Caltrans Permit for Storm Water Discharges From Caltrans Properties, Facilities, and Activities	Active
	General Construction Activity Storm Water Permit	Active
California Public Utilities Commission	Utility Construction Permit Request	Pending

S.6 PROJECT IMPACTS

Project impacts associated with the Project that are analyzed in this document include those relating to land use; growth; community impacts; utilities and emergency services; traffic and transportation/pedestrian and bicycle facilities; visual/aesthetics; cultural resources; hydrology and floodplain; water quality and storm water runoff; geology/soils/seismic/topography; paleontological resources; hazardous waste/materials; air quality; noise and vibration; and biological resources, including natural communities, wetlands and other waters, plant and animal species, threatened and endangered species, invasive species, cumulative, and climate change. Table S-2 provides a complete summary of potential impacts and avoidance, minimization, and/or mitigation measures of the Project and the No Build Alternative.

Revisions in the Project plans would avoid the effects or mitigate the effects to an acceptable level and there is no substantial evidence, in light of the whole record before the agency, that the Project may have a substantial adverse effect on the environment.

Table S-2 SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Land Use	No impact	This alternative would not comply with RTP, RTIP, RCP, General Plan, and University Community Plan. No mitigation measures are proposed.
Growth	No impact	No impact
Community Impacts	No impact	No impact
Utilities	Relocations of some utilities may be required. Implementation of the following avoidance and minimization measure would avoid or minimize impacts to utilities: <ul style="list-style-type: none"> • Caltrans and the construction contractor would coordinate with utility providers during construction to finalize utility relocation and/or removal efforts. 	No impact
Emergency Services	Emergency services would likely be inconvenienced during construction of the Project. Implementation of the following avoidance and minimization measure would avoid or minimize impacts to emergency services: <ul style="list-style-type: none"> • A Traffic Management Plan would be implemented to provide passage for emergency vehicles on roadways that would be temporarily affected during Project construction. In addition, construction plans generally require the contractor to coordinate with local emergency services so that public safety is not threatened. 	Emergency services would likely experience deteriorating response times due to increased traffic congestion. No mitigation measures are proposed.

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
<p>Traffic and Transportation</p>	<p>A potential impact to traffic and transportation could occur as a result of construction activities prior to implementation of a project feature/minimization measure:</p> <ul style="list-style-type: none"> • To minimize impacts to traffic and transportation, implementation of the Traffic Management Plan (2008) would be included as a part of the Project. <p>The Genesee Avenue corridor is being designed to accommodate pedestrian and bicycle traffic in addition to vehicular traffic. The following measures would avoid/minimize impacts to pedestrian and bicycle facilities:</p> <ul style="list-style-type: none"> • Improve bicycle facilities. The University City Community Plan identifies Genesee Avenue as a Class II bike lane facility from North Torrey Pines Road to State Route 52. This facility has been fully implemented except for the portion across I-5 because the existing overcrossing structure is not wide enough to accommodate bike lanes. The proposed overcrossing structure would include sufficient space for a bike lane in each direction. The University City Community Plan also identifies a Class III bike path along the shoulders of I-5 connecting Genesee Avenue and Sorrento Valley Road. The proposed interchange improvements also would include a two-way Class I bike path along the southbound I-5 shoulder with a barrier separating the bike path from the vehicular traffic. • Improve pedestrian accessibility. Both the Genesee Avenue and Voigt Drive overcrossings would include improved pedestrian access. The Genesee Avenue overcrossing would include a standard width sidewalk and striped/signalized pedestrian crossings and ADA-compliant pedestrian ramps at each intersection. The Voigt Drive overcrossing would include oversized (3-meter-wide [10-foot-wide]) sidewalks, striped crosswalks, and ADA-compliant pedestrian ramps. 	<p>Intersections, roadways, freeways, and ramps would operate below acceptable levels (LOS F) in 2012 and/or 2030. The 2012 and 2030 freeway weave and intersection queuing analyses concluded that impacts would occur. No mitigation measures are proposed.</p>

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Visual/Aesthetics	<p>Retaining walls proposed along I-5 and Genesee Avenue generally would introduce new visual elements within the I-5 corridor visual environment, resulting in an impact to visual/aesthetics resources prior to implementation of Project features and minimization measures.</p> <p>Visual mitigation for impacts to the I-5 corridor would consist of adhering to the following design requirements in cooperation with the Caltrans District 11 Landscape Architect.</p> <ul style="list-style-type: none"> • Development and implementation of a comprehensive landscape concept plan. This plan would be consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect. This plan would include planting and irrigation layouts that specify plant materials and container sizes. Types of landscape features include: <ul style="list-style-type: none"> ○ Drought-tolerant and sustainable landscape palettes. ○ Trees planted between the freeway traveler's viewpoint and retaining walls taller than 3 m (10 ft) tall, where feasible. ○ Vine planting sufficient to cover 90 percent of retaining walls within five years to reduce the visual impact of the walls and to act as a graffiti deterrent. ○ Median oleanders would be replaced where they cannot be preserved. ○ Slopes graded to 2:1 or flatter to sustain landscape planting and irrigation. Grading design and operations would include techniques such as slope rounding, slope sculpting, and variable gradients to mimic the appearance of natural topography. Steeper slopes may be possible if they are serrated and contain benches wide enough to accept plants from 15-gallon containers. • Bicycle lanes, pedestrian lighting, wider sidewalks, and other urban amenities on the local street sections of structures would be consistent with local Community Plan guidelines and the corridor-wide design themes. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Visual/Aesthetics (cont.)	<ul style="list-style-type: none"> ● Lighting and signage attachments would occur at pilasters or be incorporated in other architectural features and be consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect. ● Visible sections of retaining walls would receive color and texture treatments consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect. ● Structure design would be enhanced with architectural features consistent with corridor-wide design themes developed by the office of the District 11 Landscape Architect. ● Retaining walls would be designed to visibly blend with graded slopes using techniques such as slope rounding, slope sculpting, and variable gradients to mimic the appearance of natural topography when feasible. ● Enhanced landscape plantings, including more densely spaced vines, a wider variety of vines, some with seasonal color, and more trees would be planted in front of the walls, where possible. <p>These measures may take longer than five years to be effective, but eventually would reduce the apparent scale of the walls and reduce the contrast of these structures with the existing and retained undeveloped slopes and vegetation.</p>	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Cultural Resources	<p>Construction may result in discovery of cultural resources or human remains. The following avoidance and minimization measures would be implemented:</p> <ul style="list-style-type: none"> • If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find. • If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission who would then notify the Most Likely Descendant (MLD). The person who discovered the remains would contact Caltrans District Senior Environmental Planner for Cultural Resources, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable. 	No impact
Hydrology and Floodplain	<p>The Project would result in new impervious surfaces (approximately 4.76 ha [11.76 ac]). The Project would slightly encroach into a mapped 100-year floodplain; impacts would be minimal. Avoidance and minimization measures include appropriate sizing and location of proposed and existing drainage facilities, using appropriately sized energy dissipation structures at all drainage outlets to reduce flow velocities prior to discharge, minimizing Project encroachment into mapped floodplains, and matching existing curb and pavement grades for proposed improvements within floodplains.</p>	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Water Quality and Storm Water Runoff	Potential short-term water quality impacts related to Project construction include erosion/sedimentation, on-site use and storage of construction-related hazardous materials (e.g., fuels, etc.), proposed reuse of soil containing aerially deposited lead, potential presence and removal/disposal of materials containing asbestos and creosote, and disposal of extracted groundwater (if required). Long-term water quality impacts resulting from operation and maintenance of the Project involve the generation and discharge of constituents, such as total suspended solids, total dissolved solids, nutrients, metals, and trash, which could affect downstream receiving waters. Avoidance and minimization measures related to water quality concerns include the use of construction site BMPs to prevent or minimize the potential short-term impacts of construction operations, as well as design pollution prevention BMPs, and treatment and maintenance BMPs for the long-term potential impacts.	No impact
Geology/Soils/ Seismic/ Topography	The Project is susceptible to seismic hazards including ground rupture, ground acceleration, and liquefaction. Proposed grading activities would increase the potential for erosion and transport of eroded material (sedimentation) downstream of the study area. Avoidance or minimization measures would involve implementing recommendations from the Project geotechnical analysis such as design criteria, construction methodologies, field observations/testing, and site-specific geotechnical analysis, as well as conforming to applicable regulatory requirements and industry standards. Construction-related erosion and sediment control measures would be implemented as part of required water quality conformance. Implementation of the geotechnical recommendations and conformance with applicable regulatory/industry standards would effectively avoid or address potential short- and long-term impacts related to geology/seismicity/ soils.	No impact

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Paleontology	<p>Project implementation could result in potential impacts to paleontological resources associated with short-term (construction) activities such as excavation and grading, although such impacts are considered long term because the associated loss of resource values would be permanent. The following measures would effectively avoid or address potential impacts to paleontological resources from the Project.</p> <ul style="list-style-type: none"> • A qualified principal paleontologist (Master of Science [M.S.] or Doctor of Philosophy [Ph.D.] in paleontology or geology familiar with paleontological procedures and techniques) would be retained to be present at pre-grading meetings to consult with grading and excavation contractors. • A paleontological monitor, under the direction of the qualified principal paleontologist, would be on site to inspect cuts for fossils at all times during original grading involving sensitive geologic formations. As grading progresses, the qualified paleontologist and paleontological monitor would have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources are lower than anticipated. • When fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner. • During the monitoring and recovery phases, the paleontologist (or paleontological monitor) would routinely collect stratigraphic data to provide a stratigraphic context for any recovered fossils. • Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted and cataloged. • Prepared fossils, along with copies of all pertinent field notes, photos and maps, would then be deposited in a scientific institution with paleontological collections. • A final report would be completed that outlines the results of the mitigation program. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Hazardous Waste/Materials	<p>According to the aerially deposited lead (ADL) site investigation, exposed soil is not a hazardous waste with regard to ADL. Lead-based paint and asbestos-containing materials may exist on site. An impact could potentially result from construction activities that disturb surfaces with lead-based paint, treated wood, and/or asbestos-containing materials, if present. No other hazardous wastes or materials in the vicinity or on site pose a risk.</p> <p>The following measures would avoid, minimize, and/or mitigate for the presence of asbestos-containing material, treated wood, and lead-based paint hazards (if present) on site:</p> <ul style="list-style-type: none"> • Contract specifications would include a line item for loading, transportation, and disposal of any contaminated soil and/or groundwater generated/encountered during Project construction. • Bridge railing gaskets and any other materials found during construction containing asbestos containing-materials shall be handled using proper Health and Safety precautions, and the materials shall be properly disposed as hazardous waste according to federal, state, and local regulations. Asbestos-containing materials would be removed by a licensed asbestos abatement contractor. The certified asbestos consultant also would conduct abatement project planning, monitoring (including air monitoring), oversight, and reporting. • Yellow paint striping on the Genesee Avenue overcrossing and portions of the roadway contain lead-based paint. If yellow paint striping or yellow thermoplastic paint stripe of pavement marking is removed by itself, it shall be contained and collected immediately so that it is not emitted into ambient air and disposed at a Class I Landfill facility. A licensed abatement contractor would remove lead-based paint under the oversight of a qualified contractor prior to removal and demolition of the painted materials. • Treated wood waste must be managed as a non-hazardous designated waste by being disposed of at a landfill facility permitted to accept such wastes. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Hazardous Waste/Materials (cont.)	<ul style="list-style-type: none"> • Because of the potential hazard from exposure of workers and the public to lead-contaminated soil and other potential hazards, a Certified Industrial Hygienist would prepare a site-specific Lead, Asbestos, and Treated Wood Compliance Plan prior to grading. In addition, site workers who may potentially be exposed to chemical hazards during the Project would have completed a training program meeting the requirements of 29 CFR 1910.120 and 8 CCR 1532.1 The plans developed by the Certified Industrial Hygienist would include a hazard analysis, and would describe dust control measures, air monitoring, signage, work practices, emergency response plans, personal protective equipment, decontamination, and documentation. 	No impact
Air Quality	<p>A temporary impact could potentially result from construction activities that produce emissions. Implementation of the following measures would minimize any air quality affects resulting from construction activities:</p> <ul style="list-style-type: none"> • The construction contractor shall comply with Caltrans' Standard Specifications Section 7-1.01F and Section 10 of Caltrans' Standard Specifications (2006d). • Apply water or dust palliative to exposed soil surfaces at the Project site as frequently as necessary to control fugitive dust emissions. • Spread soil binder on any unpaved roads used for construction purposes, and all construction parking areas. • Wash off trucks as they leave the Project site as necessary to control fugitive dust emissions. • Use track-out reduction measures such as gravel pads at access points to minimize dust and mud deposits on roads affected by construction traffic. • Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Air Quality (cont.)	<ul style="list-style-type: none"> • Cover transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM₁₀ and deposition of particulate matter during transportation. • Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area. • Properly tune and maintain construction equipment and vehicles. Use low sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114. Locate equipment and materials storage areas as far away from residential and park uses as practical. 	No impact
Noise	<p>To avoid unnecessary annoyances from construction noise, the following construction noise control measures would be implemented:</p> <ul style="list-style-type: none"> • Compliance with Caltrans' Standard Specifications 7-1.011 (2006d) Sound Control Requirements. "The contractor would comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, would be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine would be operated on the Project without said muffler." • Idling equipment would be turned off. • Noise-control monitoring program would be implemented to limit the impacts. • Noisier operations would be performed during the times least sensitive to receptors. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Noise (cont.)	The Noise Study Report states that calculations based on preliminary design data indicate that a sound wall would reduce noise levels by 5 dBA at R15A and R15B, which would reduce the sound level at those locations to below the NAC. The sound wall at Warren Field would need to be 204 m (669 ft) long with a maximum height of 2.4 m (8 ft). The Noise Abatement Decision Report deems the wall to be feasible; however, a wall in this location would not be reasonable due to cost. A cost estimate shows that the wall would cost \$424,788. While the wall would provide a reduction in noise, the cost per residence is higher than the cost per residence allowance, thus rendering the wall unreasonable to construct. If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement would be made upon completion of the Project design and the public involvement processes.	No impact
Natural Communities	<p>Final mitigation ratios and the location for off-site mitigation would be determined during the permit process. Mitigation ratios within this document are based on mitigation requirements for recent, similar Caltrans projects.</p> <p>Given that Caltrans is proposing additional improvements along this portion of I-5 as part of the proposed I-5 North Coast project, which overlaps with this Project, areas subject to temporary impacts would be hydroseeded with an appropriate native species palette.</p> <p>Permanent impacts to 1.9 ha (4.7 ac) of Diegan coastal sage scrub (including disturbed), 0.3 ha (0.7 ac) of coyote brush scrub, and 3.5 ha (8.7 ac) of non-native grassland (including disturbed) would occur. In addition, temporary impacts to 0.4 ha (1.1 ac) of Diegan coastal sage scrub (including disturbed), 0.1 ha (0.2 ac) of coyote brush scrub, and 0.9 ha (2.2 ac) of non-native grassland (including disturbed) would occur. Direct impacts to natural communities within the Multi-Habitat Planning Area (MHPA) would include 0.2 ha (0.6 ac) of temporary impacts and 1.1 ha (2.8 ac) of permanent impacts.</p>	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Natural Communities (cont.)	<p>The following measures would minimize impacts to natural communities:</p> <p><u>Natural Communities</u></p> <p><i>Diegan Coastal Sage Scrub (including disturbed).</i> Avoidance and minimization efforts have been incorporated into the Project design. Impacts to Diegan coastal sage scrub would be minimized through the installation of retaining walls and construction of manufactured 2:1 slopes rather than 4:1 to minimize the grading footprint. All sensitive habitats (including Diegan coastal sage scrub) outside the impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas. Fencing would be installed in a manner that would not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. Fencing would be maintained throughout the construction period to preclude human entry into the MHPA. No construction activities, materials, or equipment would be permitted outside the fenced Project footprint. Caltrans would submit the final plans for initial clearing and grubbing of habitat and Project construction to USFWS for approval, at least five days prior to initiating Project impacts (except for impacts resulting from clearing to install temporary fencing). These final plans would include photographs that show the fenced limits of impact and all areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact, all work would cease until the problem has been remedied to the satisfaction of USFWS. Any impacts that occur beyond the approved fenced area would be offset in consultation with USFWS. Temporary construction fencing would be removed upon Project completion.</p> <p>Temporary and permanent impacts to Diegan coastal sage scrub (including disturbed) would be minimized by implementation of the following measures:</p>	No impact

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
<p>Natural Communities (cont.)</p>	<ul style="list-style-type: none"> • Mitigation for temporary impacts to 0.4 ha (1.1 ac) of Diegan coastal sage scrub (including disturbed) would include (1) temporary revegetation on site by hydroseeding with a Diegan coastal sage scrub plant palette and (2) off-site creation of Diegan coastal sage scrub (at a 2:1 ratio). The slopes would be temporarily revegetated until the proposed I-5 North Coast Corridor project is implemented, at which time the final slopes would be permanently revegetated. • Mitigation for permanent impacts to 1.9 ha (4.7 ac) of Diegan coastal sage scrub (including disturbed) is proposed at a 2:1 ratio with off-site creation of Diegan coastal sage scrub. <p>Off-site Diegan coastal sage scrub creation is proposed at the Pardee (Deer Canyon) Mitigation Parcel.</p> <p>The draft mitigation plan for the Pardee (Deer Canyon) Mitigation Parcel has been reviewed by the resource agencies, and the final draft has been completed and is in review.</p> <p>A perpetual biological conservation easement or other conservation mechanism acceptable to USFWS would be recorded over the areas preserved, restored, and/or enhanced by the Project at the Pardee (Deer Canyon) Mitigation Parcel. The conservation mechanism would specify that no easements or activities (e.g., fuel modification zones, public trails, drainage facilities, walls, maintenance access roads) that would result in soil disturbance and/or vegetation removal would be allowed within the biological conservation easement areas. Caltrans anticipates that the mitigation parcel would be placed into a conservation easement or other conservation mechanism prior to initiating Project impacts; however, annual reports would be provided on the mitigation parcel's status until the conservation mechanism has been placed.</p> <p>Caltrans would prepare a perpetual long-term management, maintenance, and monitoring plan (e.g., a Habitat Management Plan [HMP]) for the Pardee (Deer Canyon) Mitigation Parcel. The HMP would</p>	<p>No impact</p>

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
<p>Natural Communities (cont.)</p>	<p>include, but not be limited to, the following: method of protecting the resources in perpetuity (e.g., conservation easement), monitoring schedule, measures to prevent human and exotic species encroachment, funding mechanism, and contingency measures if problems occur. The City has agreed to own and manage the mitigation parcel with a management endowment that would be paid by Caltrans, in accordance with the requirements of the TransNet Memorandum of Agreement. Caltrans would establish a non-wasting endowment in an amount approved by USFWS based on a Property Analysis Record or similar cost estimation method to secure the ongoing funding for the perpetual long-term management, maintenance, and monitoring of the biological conservation easement area by an entity approved by USFWS. Caltrans would submit a draft HMP including a description of perpetual management, maintenance, and monitoring actions, and the Property Analysis Record or other cost estimation results for the non-wasting endowment to USFWS for approval. Caltrans would submit the final HMP to USFWS and transfer the funds for the non-wasting endowments to the appropriate management entities. Caltrans anticipates that preparation of the HMP and transferring of the funds for the non-wasting endowment would not occur prior to initiating Project impacts; however, annual reports would be provided on the status until the final HMP has been provided and the endowment funds have been transferred.</p> <p><i>Coyote Brush Scrub.</i> Avoidance and minimization efforts have been incorporated into the Project design. Impacts to coyote brush scrub would be minimized through the installation of retaining walls to minimize the grading footprint. All sensitive habitats (including coyote brush scrub) outside the impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas.</p>	<p>No impact</p>

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Natural Communities (cont.)	<p>Impacts to coyote brush scrub would be minimized by implementation of the following measures:</p> <ul style="list-style-type: none"> • Mitigation for temporary impacts to 0.1 ha (0.2 ac) of coyote brush scrub would include off-site creation of Diegan coastal sage scrub (at a 2:1 ratio) and temporary revegetation on site (at a 1:1 ratio) by hydroseeding with a Diegan coastal sage scrub plant palette. The slopes would be temporarily revegetated until the proposed I-5 North Coast Corridor project is implemented, at which time the final slopes would be permanently revegetated. • Mitigation for permanent impacts to 0.3 ha (0.7 ac) of coyote brush scrub is proposed at a 2:1 ratio with off-site creation of Diegan coastal sage scrub at the Pardee (Deer Canyon) Mitigation Parcel. <p><i>Non-native Grassland (including disturbed).</i> Avoidance and minimization efforts have been incorporated into the Project design. All sensitive habitats (including non-native grasslands) outside the impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas. Temporary impacts to species occupying or using non-native grasslands would be minimized through the implementation of the following measure:</p> <ul style="list-style-type: none"> • Temporary impact areas would be hydroseeded with a native grassland and forb palette for erosion control measures. <p>Permanent impacts to non-native grassland would be minimized by implementation of the following measure:</p> <ul style="list-style-type: none"> • Mitigation for permanent impacts to 3.5 ha (8.7 ac) of non-native grassland is proposed at a 0.5:1 ratio with off-site preservation of non-native grassland at the Pardee (Deer Canyon) Mitigation Parcel. 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Natural Communities (cont.)	<p><u>Multiple Species Conservation Program</u></p> <p>The Project has been designed to minimize impacts to the MHPA. Direct impacts to natural communities within the MHPA would include 0.2 ha (0.6 ac) of temporary impacts and 1.1 ha (2.8 ac) of permanent impacts. The loss of these habitats would be minimized through implementation of the mitigation identified for the habitats above, and implementation of the mitigation described below for Wetlands and Other Waters (for impacts to southern willow scrub [including disturbed] within the MHPA).</p> <p>Direct and indirect impacts due to adjacency concerns related to fugitive dust and invasive species would be avoided or minimized to acceptable levels through Project design, and implementation of the following avoidance and minimization measures:</p> <ul style="list-style-type: none"> • All sensitive habitats outside the impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas. • Fugitive dust would be minimized through the application of water or chemical palliatives to active construction areas and unpaved surfaces. Areas of temporary impacts would be hydroseeded with a Diegan coastal sage scrub or native grassland and forb plant palette for temporary revegetation and would contain only native species. • Invasive plant species would not be used in Project landscaping. • Site design BMPs are intended to control construction and post-development runoff, erosion potential, and contaminant generation. Construction-related BMPs would include: <ul style="list-style-type: none"> ○ Installing erosion and sediment control devices such as silt fences, fiber rolls, bonded fiber matrix, mulching, and gravel bags in appropriate locations; ○ Placing temporary filters at storm drain inlets (e.g., gravel bags/filter fabric); ○ Stabilizing construction entrances; ○ Designating containment areas for material storage (e.g., covering/berming of soil stockpiles); 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Natural Communities (cont.)	<ul style="list-style-type: none"> ○ Providing containment areas for solid waste storage and concrete washout; and ○ Using energy dissipators in appropriate locations. <p>Post-construction BMPs would include the use of appropriate devices/techniques such as landscaping/revegetation and vegetated swales/grass strips. Energy dissipators would reduce the velocity and downstream erosion potential of runoff leaving the Project area and would help maintain pre-development velocity rates. All site design BMPs would reduce long-term urban contaminant generation by minimizing runoff volumes and velocities, removing accumulated contaminants, and increasing infiltration.</p> <p>Bioswales would be planted with appropriate species. Slopes adjacent to developed urban areas would be vegetated with native and drought tolerant non-invasive species selected by the landscape architect in coordination with the biologist and others. Interchanges located in urban areas would be landscaped with native or ornamental non-invasive species.</p> <p>Drainage from the construction area and new and proposed developed areas in and adjacent to the preserve would not drain directly into the MHPA. Topography of the site is such that MHPA lands directly adjacent to the project are at a higher elevation. The Project would use biofiltration to treat road runoff prior to discharge into receiving water bodies. The use of structural and non-structural BMPs and the restriction of grading and paving activity during significant rain events would reduce potential impacts associated with construction. The project design would comply with Caltrans Municipal Stormwater Permit criteria of the State Water Resources Control Board and the Clean Water Act Section 401 Water Quality Certification issued by the Regional Water Quality Control Board for the Project. Erosion and sediment control devices used for the Project, including fiber rolls and bonded fiber matrix, would be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.</p>	No impact

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Natural Communities (cont.)	<p>Caltrans would ensure that the following conditions would be implemented during Project construction:</p> <ul style="list-style-type: none"> • Contractors and construction personnel would strictly limit their activities, vehicles, equipment, and construction materials to the fenced Project footprint; • The Project site would be kept as clean of debris as possible. All food-related trash items would be enclosed in sealed containers and regularly removed from the site; • Pets of construction personnel would not be allowed on the Project site; • All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities would occur within the fenced Project impacts limits. The changing of oil, refueling, and other actions that could result in a release of a hazardous substance would be restricted to designated areas that are a minimum of 30.5 m (100 ft) from any drainages. Such designated areas would be surrounded with berms, sandbags, or other barriers to further prevent the accidental spill of fuel, oil, or chemicals. Any accidental spills would be immediately contained, cleaned up, and properly disposed; • Impacts from fugitive dust would be avoided and minimized through watering and other appropriate measures; and • Cut and fill would be balanced within the Project or the construction contractor would identify the source or disposal location. All spoils and material disposal will be disposed of properly. 	No impact

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
<p>Wetlands and Other Waters</p>	<p>The Project would temporarily impact 0.02 ha (0.05 ac) and permanently impact 0.45 ha (1.12 ac) of southern willow scrub (including disturbed), for a total wetland impact of 0.47 ha (1.17 ac). The Project would impact 0.04 ha (0.09 ac) of Corps jurisdictional areas and 0.47 ha (1.17 ac) of CDFG jurisdictional areas. Water quality could be affected during construction or operation by potential surface runoff, including sedimentation, fertilizers, and car petroleum products. Decreased water quality may affect vegetation, aquatic animals, and terrestrial wildlife that depend upon these resources.</p> <p>The following avoidance and minimization measures would minimize impacts to wetlands and other waters:</p> <p><u>Wetland and Riparian Habitats/Jurisdictional Areas</u></p> <p>The Project has been designed to avoid and/or minimize temporary and permanent impacts to wetland and riparian habitats/jurisdictional areas. The area of impact in other portions of the Project site has been reduced with the use of retaining walls that minimize the Project grading footprint.</p> <p>Southern willow scrub impacts would be mitigated at a 3:1 ratio at the Pardee (Deer Canyon) mitigation site. The site is located near other areas successfully restored to wetland habitat and is suitable for wetland creation. Caltrans proposes to create approximately 5.0 ha (12.3 ac) of southern willow scrub to meet the no net loss requirement for wetland impacts along either side of the existing cobble channel, without impacting the channel itself within the Pardee (Deer Canyon) Mitigation Parcel. Wetland impacts from several other projects also would be mitigated at this site.</p>	<p>No impact</p>

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Wetlands and Other Waters (cont.)	<p>Wetland communities occur in proximity to the Project footprint in several areas, including freshwater marsh (including disturbed) within approximately 1.5 m (5 ft), southern cottonwood-willow riparian forest within approximately 96.0 m (315 ft), emergent wetland within approximately 41.2 m (135 ft), open water within approximately 1.5 m (5 ft), and disturbed wetland within approximately 54.9 m (180 ft) from the Project site. Additionally, the freshwater marsh (including disturbed), southern willow scrub (including disturbed), open water and emergent wetland communities located outside the direct impact areas would be designated as environmentally sensitive areas. These environmentally sensitive areas would be fenced with orange plastic snow fencing, and no personnel, debris, or equipment would be allowed in the environmentally sensitive areas.</p> <p>No net loss of wetlands would occur with the implementation of mitigation. Approximately 1.46 ha (3.60 ac) of southern willow scrub is required for mitigation for impacts to southern willow scrub and drainage/ streambed.</p>	No impact
Plant Species	No impact	No impact
Animal Species	<p>The Project would impact riparian habitat; therefore, there is a potential to impact yellow warbler and yellow-breasted chat. Impacts to this habitat have been minimized and to date, neither of these species has been detected in the riparian habitat to be impacted; thus, no avoidance, minimization, or mitigation measures would be required for those species.</p> <p>Avoidance and minimization efforts have been incorporated into the Project design to reduce impacts to habitat supporting orange-throated whiptail, southern California rufous-crowned sparrow, northern harrier, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, and southern mule deer. Such avoidance and minimization efforts include installation of retaining walls and construction of manufactured slopes with 2:1 slopes rather than 4:1 to minimize the grading footprint. Avoidance efforts include designating all sensitive habitats (including those occupied by sensitive animal species) outside the impact areas as environmentally sensitive areas, fencing environmentally sensitive areas with orange plastic snow</p>	No impact

**Table S-2 (cont.)
SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES**

Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Animal Species (cont.)	<p>fencing, and prohibiting personnel, debris, or equipment within the environmentally sensitive areas. Temporary and permanent impacts to Diegan coastal sage scrub (including disturbed) and non-native grassland would be reduced through the implementation of avoidance and minimization measures described above for Natural Communities. The following avoidance and minimization measure would reduce impacts to special status animal species and raptors:</p> <ul style="list-style-type: none"> • All native vegetation, trees, and large shrubs shall be cleared outside the breeding season of southern California rufous-crowned sparrow, northern harrier and other raptors, and other migratory birds (February 15 through August 31) to avoid breeding birds. If Project construction occurs during the breeding season, pre-construction surveys and avoidance of nesting birds would be required by a biologist approved by USFWS. If nesting southern California rufous-crowned sparrow, northern harrier or other raptor, or other migratory birds are observed/detected within the Project limits, construction would not be permitted to commence until the conclusion of the breeding season (August 31), or until all young have fledged. No direct impacts to nests are allowed during the breeding season. • All lighting (including night lighting during construction) installed in the vicinity of the MHPA, native vegetation communities, and/or other open space areas would be directed away or shielded to prevent light overspill. Streetlights would be low-intensity and shielded to minimize illumination of the adjacent habitat. Night lighting of construction areas would be of the lowest illumination necessary for human safety, selectively placed, shielded, and directed away from natural habitats. 	

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Threatened and Endangered Species	<p>The Project would impact Diegan coastal sage scrub, the preferred habitat of the coastal California gnatcatcher (<i>Polioptila californica californica</i>). Implementation of the Project would result in temporary impacts to 0.2 ha (0.4 ac) and permanent impacts to 1.5 ha (3.7 ac) of Diegan coastal sage scrub, and temporary impacts to 0 ha (0.1 ac) and permanent impacts to 0.4 ha (1.0 ac) of disturbed Diegan coastal sage scrub. Direct impacts to Diegan coastal sage scrub would occur where one pair of coastal California gnatcatcher was observed/detected.</p> <p>In addition, Project construction would generate noise that could potentially result in a temporary impact to coastal California gnatcatcher. Noise-related direct impacts would occur if coastal California gnatcatchers were displaced from their nests and failed to breed. Construction-related noise would result in a limited impact to coastal California gnatcatchers given the relatively high existing ambient noise from the adjacent roadway and that the construction noise would be temporary.</p> <p>No permanent indirect impacts would occur given that ambient noise levels were 61.1 dBA L_{eq} at the southern measurement location and 66.4 dBA L_{eq} at the northern measurement location, and noise levels are not likely to rise substantially (2 dB[A] or less) during operation of the new facilities.</p>	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Threatened and Endangered Species (cont.)	<p>The following avoidance and minimization measures would effectively avoid or minimize impacts to threatened and endangered species:</p> <p><u>Coastal California Gnatcatcher</u></p> <p>Avoidance and minimization efforts have been incorporated into the Project design to minimize impacts to habitat supporting coastal California gnatcatcher, including installation of retaining walls and construction of manufactured slopes with 2:1 slopes rather than 4:1 to minimize the grading footprint. Avoidance efforts also include designating all sensitive habitats (including those occupied by coastal California gnatcatcher) outside the impact areas as environmentally sensitive areas, fencing environmentally sensitive areas with orange plastic snow fencing, and prohibiting personnel, debris, or equipment within the environmentally sensitive areas.</p> <p>Temporary and permanent impacts to Diegan coastal sage scrub (including disturbed) habitat would be reduced through the implementation of avoidance and minimization measures described above for Natural Communities. In addition, implementation of the following avoidance and minimization measure would reduce direct and indirect impacts to coastal California gnatcatcher:</p> <ul style="list-style-type: none"> • All native vegetation, trees, and large shrubs shall be cleared outside the coastal California gnatcatcher and other migratory bird breeding season (February 15 through August 31) to avoid breeding birds. If ornamental vegetation clearing occurs during the breeding season pre-construction nesting bird surveys and avoidance of nesting birds would be required by a biologist approved by USFWS. If nesting gnatcatchers are observed/detected within a proposed impact area, on-site clearing would be suspended until the end of the breeding season (August 31), or until all young have fledged. No direct impacts to nests are allowed during the breeding season. • A biologist would be present on site during initial clearing and grubbing, as well as weekly during Project construction located within 152 m (500 ft) of off-site gnatcatcher habitat to ensure compliance with 	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Threatened and Endangered Species (cont.)	<p>all conservation measures. The Project biologist would be familiar with the habitats, plants, and wildlife in the Project area to ensure that issues relating to biological resources are appropriately and lawfully managed.</p> <ul style="list-style-type: none"> To minimize construction noise impacts to nesting gnatcatchers, all pile driving for the Project that would occur near habitats that support gnatcatchers would be conducted between September 1 and February 14 to avoid the gnatcatcher breeding season (or sooner than September 1 if the Project biologist can demonstrate to the satisfaction of USFWS that all nesting is complete). 	
Invasive Species	<p>Construction activities could result in the further spread of invasive plant species within the BSA.</p> <p>Implementation of the following avoidance and minimization measures would reduce impacts associated with invasive species:</p> <ul style="list-style-type: none"> A qualified biologist would review the Project landscape concept plans to ensure that no invasive species (as listed in the California Invasive Plant Inventory) are included. A biological monitor would educate construction crews (prior to construction) on the benefits of cleaning equipment prior to ingress and egress. Upon completion of grading, all areas of temporary disturbance would be revegetated with native species or ornamental landscaping to limit colonization by invasive species. Following installation of revegetation and landscaping, such areas would be monitored and maintained to minimize invasive species In compliance with EO 13112, and subsequent guidance from the FHWA, the landscaping and erosion control included in the Project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or adjacent to the construction areas. Such precautions could include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. 	No impact
Cumulative Impacts	Project-related contributions to the visual and biological environment would not be cumulatively considerable.	No impact

Table S-2 (cont.) SUMMARY OF EFFECTS AND AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES		
Issue	Impacts Related to I-5/Genesee Interchange Reconstruction Project and Proposed Measures to Minimize Harm	Impacts Related to the No Build Alternative
Climate Change	<p>Due to the reduction in vehicle hours traveled and improved traffic flow following Project buildout, carbon dioxide (CO₂) emissions should be reduced.</p> <p>To the extent that it is applicable or feasible for the Project and through coordination with the Project Development Team, the following measures would be included in the Project to reduce the GHG emissions and potential climate change impacts from the Project:</p> <ul style="list-style-type: none"> • Landscaping would use reclaimed water, where possible. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas (GHG) emissions from electricity production. • Landscaping would be utilized to reduce surface warming and through photosynthesis decreases CO₂. The Project proposes planting of ornamental, drought tolerant trees, shrubs, vines, and groundcover on modified slopes, medians, and landscaped strips. This vegetation would help offset any potential CO₂ emissions increase. • According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction; in addition, the contractor must comply with San Diego Air Quality Management District's rules, ordinances, and regulations in regard to air quality restrictions. • Caltrans and the California Highway Patrol are working with regional agencies to implement intelligent transportation systems (ITS) to help manage the efficiency of the existing highway system. ITS is commonly referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system. • The City of San Diego provides ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity. 	No impact

CHAPTER 1.0

PROPOSED PROJECT

Implementation of the auxiliary lanes between Genesee Avenue and La Jolla Village Drive would require replacement of the Voigt Drive overcrossing. The location of the existing overcrossing foundations precludes any widening of the freeway. The Voigt Drive overcrossing structure would be designed such that it does not preclude implementation of other currently planned roadway and transit improvements at that location. The future projects that are currently being planned include the ultimate widening of I-5 and direct access ramps⁴ under the proposed I-5 North Coast Corridor project and a Light Rail Transit (LRT) crossing of I-5 adjacent to Voigt Drive under the Mid-Coast Corridor project. To account for these future projects, the Voigt Drive overcrossing would be lowered, lengthened, and widened. The existing Voigt Drive overcrossing has a vertical clearance of 9.1 m (29.8 ft), which is higher than the required vertical clearance of 5.1 m (16.5 ft). The Project proposes to lower the profile of Voigt Drive and provide a 6.0-m (19.7-ft) vertical clearance. Lowering the profile of the Voigt Drive overcrossing would allow for improved profile geometry on the planned direct access ramps that would tie into the Voigt Drive overcrossing. Lowering the profile of the Voigt Drive overcrossing also would allow for the planned LRT crossing of I-5 to be grade separated from the planned direct access ramps. The new structure would also be longer to account for the future planned widening of I-5 under the proposed I-5 North Coast Corridor project. The new Voigt Drive overcrossing would be constructed slightly to the north (the centerline would shift approximately 11.2 m [36.7 ft]) so that the existing overcrossing could continue to carry traffic during construction of the new overcrossing. Details of the proposed Voigt Drive overcrossing are provided below under “Voigt Drive Overcrossing and Gilman Drive Realignment.”

The proposed modifications to the Voigt Drive overcrossing, as previously described, include changes to both the horizontal and vertical alignment of Voigt Drive approaching the overcrossing. As a result of these changes, the portion of Gilman Drive approaching the Voigt Drive intersection also would need to be reconstructed to meet the revised geometry and lowered grade. The Gilman Drive reconstruction would be designed such that it does not preclude implementation of other currently planned roadway and transit improvements at that location. Planned future projects that could impact this section of Gilman Drive include the ultimate widening of I-5 under the proposed I-5 North Coast Corridor project and an LRT crossing of I-5 adjacent to Voigt Drive under the Mid-Coast Corridor project. To account for these future projects, the reconstructed portion of Gilman Drive would be realigned to the west and the profile modified.

The Project would be designed to accommodate pedestrian and bicycle traffic, as well as vehicular traffic, within the Project corridor. The Community Plan and the City of San Diego Bikeway Master Plan identify Genesee Avenue as a Class II bike lane facility from North Torrey Pines Road to State Route 52. This facility has been implemented except for the portion across I-5 because the existing overcrossing structure is not wide enough to accommodate bike lanes. The proposed overcrossing structure would include a Class II bike lane that is 1.8 m (6 ft) wide in each direction. The City of San Diego Bicycle Master Plan also identifies an existing Class III bike route along the shoulders of I-5 connecting Genesee Avenue and Sorrento Valley Road. The Project would include a two-way Class I bike path⁵ along the southbound I-5 shoulder with a barrier separating the bike path from the vehicular traffic. Accordingly, the proposed improvements would include a bicycle and pedestrian link between the eastern and western

⁴ Direct access ramps provide direct access from roadways to high-occupancy vehicle lanes in the center of the freeway.

⁵ A Class I bike path is intended for the exclusive use of bicycles. While it may parallel a roadway, it is physically separated by distance or a vertical barrier.

sides of I-5 and would be consistent with planned multi-modal transportation facilities and goals in the Project area.

Both the Genesee Avenue and Voigt Drive overcrossings would be improved for bicyclist and pedestrian access. The Genesee Avenue overcrossing would include a sidewalk that is 2 m (6.6 ft) wide, striped/signalized pedestrian crossings, and Americans with Disabilities Act (ADA-) compliant pedestrian ramps at each intersection. The Voigt Drive overcrossing would include sidewalks and bicycle lanes. Existing free-right turns at the Genesee Avenue interchange would be removed to avoid conflicts with pedestrian and bicycle traffic.

Project components and proposed improvements of the Project are summarized below.

Genesee Avenue Overcrossing

- Remove and replace the existing four-span overcrossing with a new two-span, cast-in-place, pre-stressed reinforced concrete structure similar to the existing overcrossing. The Project proposes to widen the Genesee Avenue overcrossing structure to increase the roadway LOS to current City standards. The new overcrossing would provide for three lanes in each direction and provide two left-turn lanes in each direction. The left-turn lanes would be continuous across the overcrossing structure and extend westward and eastward onto Genesee Avenue to maximize queue storage. The existing Genesee Avenue overcrossing structure has a vertical clearance of 4.6 m (15.2 ft). This vertical clearance does not meet current Caltrans' standards. Current standards require a vertical clearance of 5.1 m (16.5 ft). Due to this existing vertical shortage, any widening of the existing structure also would not meet vertical clearance standards. Therefore, the Project proposes to replace the existing bridge with a wider structure that conforms to Caltrans' vertical clearance standards. The new overcrossing would be increased from 23.2 m (76.1 ft) to 47.2 m (154.9 ft) in width. Additionally, the existing overcrossing structure is not long enough to span the ultimate width of the planned I-5 widening improvements. Such freeway widening improvements would not occur as part of the Project, but are planned by Caltrans as a separate future project. Therefore, the proposed structure would be lengthened from 73.3 m (240.5 ft) to 91.8 m (301.2 ft), which would not preclude the ultimate I-5 freeway condition. The increased structure length would increase the depth of the structure. The increased structure depth and the current non-standard vertical clearance, combined with the need to maintain falsework clearance during construction and maintain current vertical clearance requirements in the future when I-5 is widened, require that the profile along Genesee Avenue be raised. The height of the bridge deck would be increased from 6.1 m (20.0 ft) to 10.3 m (33.8 ft) and the proposed vertical clearance would be 6.8 m (22.2 ft). The vertical clearance would be decreased once I-5 is widened in the future, but would continue to meet current vertical clearance requirements.
- Widen Genesee Avenue to six lanes (three lanes in each direction) east and west of the overcrossing to be consistent with the three lanes in each direction along Genesee Avenue. Construct two dedicated right-turn lanes for the westbound to northbound on-ramp and the eastbound to southbound on-ramp, and two left-turn lanes for the eastbound to northbound on-ramp and the westbound to southbound on-ramp.

Auxiliary Lanes and Ramp Improvements

- Reconstruct existing interchange ramp junctions, ramps, and ramp terminals at the I-5/Genesee Avenue interchange. Widen and lengthen all four ramps to accommodate

increased (future year; i.e., 2030) traffic flows and the increased overcrossing length and height. Widen the Genesee Avenue off-ramps to two lanes to improve traffic flow in the ramp junction areas at higher future year exiting volumes. Widen the off-ramps from two to four lanes (two left-turn and two right-turn lanes) at the ramp terminals allowing sufficient length to store expected queuing. Widen the Genesee Avenue on-ramps to three lanes (two general purpose and one HOV). The northbound on-ramp would taper down to two lanes, and the southbound on-ramp would taper down to one lane.

- Widen the Sorrento Valley Road on-ramp to three lanes (two general-purpose and one HOV) at the terminal intersections, add ramp metering, and then taper down to one lane at the ramp junction with I-5.
- Widen the Sorrento Valley Road off-ramp from one to two lanes at the ramp junction and from two to three lanes at the terminal intersection.
- Construct auxiliary lanes in both directions between the Genesee Avenue ramps and the adjacent ramps for La Jolla Village Drive and Sorrento Valley Road. The auxiliary lanes are being proposed to accommodate projected future year increases in traffic volumes entering and exiting the freeway at Genesee Avenue. Future year entering/exiting traffic volumes would exceed the capacity of the existing direct merge/diverge ramp junction configurations, which would cause increased congestion on I-5 and increased queuing on Genesee Avenue.

Voigt Drive Overcrossing and Gilman Drive Realignment

- Replace the Voigt Drive overcrossing due to implementation of the auxiliary lanes between Genesee Avenue and La Jolla Village Drive. The Voigt Drive overcrossing would be designed so as not to preclude future transportation network improvements. The Voigt Drive overcrossing structure must be designed so as not to preclude the ultimate widening of I-5, and direct access ramp connections being proposed by Caltrans in the proposed I-5 North Coast Corridor project and possible Bus Rapid Transit Superloop and LRT routes along Voigt Drive being proposed by SANDAG.
- To avoid precluding these future projects, the replacement Voigt Drive overcrossing must be longer, widened to five lanes (four through lanes with a center left-turn lane), and the profile lowered. The lower profile of Voigt Drive would assist in reducing the grade and length of the direct access ramps and allow for full grade separation from the proposed future LRT facility. The length of the new overcrossing would be increased from 90.0 m (295.3 ft) to 120.3 m (394.7 ft), and the width would be increased from 12.2 m (40.0 ft) to 29.7 m (97.5 ft). The height of the overcrossing would be lowered from 11.0 m (36.1 ft) to 8.6 m (28.2 ft). These changes to the overcrossing configuration and the ultimate widening proposed for I-5 also require some intersection and realignment modifications to Gilman Drive immediately west of the freeway.
- Realign Gilman Drive and modify the intersection with Voigt Drive, so as not to preclude the proposed and ultimate widening of I-5.

Other Design Components

- Sixteen retaining walls are proposed at various locations along the Project corridor. The walls are expected to be of various types including Type 1, Type 5, soil nail, tie-back, and soldier pile with lagging walls. The maximum heights of the walls range from approximately 1.0 m (3.3 ft) to 15.8 m (51.8 ft). The locations of the proposed retaining walls are shown in Figure 1-4.

- New drainage facilities would be constructed adjacent to the freeway and the cross roads, including storm drain inlets, storm drain pipe, bioswales, brow ditches, and headwalls. Some of the existing drainage structures would be abandoned and replaced with new structures.
- Construct an earthen buttress to stabilize the ancient landslide embankment. The buttress would be placed just northwest of the I-5/Genesee Avenue interchange. The size and weight of the buttress would counteract the driving force along the potential slip plane of the ancient landslide.

Transportation System Management Features

Although Transportation System Management (TSM) measures alone could not satisfy the purpose and need of the Project, the following TSM measures have been incorporated into the Project:

- Metering of on-ramps (Sorrento Valley Road and Genesee Avenue), warranted by entering volumes
- Auxiliary lanes in both directions between La Jolla Village Drive and Genesee Avenue and between Genesee Avenue and Sorrento Valley Road
- Traffic signal optimization at the I-5/Genesee Avenue ramp intersections

Utilities

The Project would involve the relocation of existing utilities that are located on the Genesee Avenue and Voigt Drive overcrossings. These utilities would be re-installed on the replacement overcrossings. The following utilities may require relocation or be protected in place during Project construction:

- Water, reclaimed water, electric, gas, and telephone lines contained in the University of California, San Diego (UCSD) utilities tunnel south of Voigt Drive
- Three sewer lines south of Voigt Drive
- Gas and electric lines that connect to Scripps facilities north of Voigt Drive and east of I-5
- Water and electric lines located along Gilman Drive, including the 69-kilovolt (kV) San Diego Gas and Electric (SDG&E) line that requires an action with the Public Utilities Commission (PUC)
- Electric and water lines that pass through or under a proposed wall west of Gilman Drive
- Telecommunication, water, sewer, electric, fiber optic, and cable lines located along Genesee Avenue, east of the interchange

Staging and Access

It is anticipated that construction staging would occur in a disturbed area between the Sorrento Valley Road southbound on-ramp and the I-5 freeway that was previously used for construction staging for the I-5/I-805 merge. Other construction staging areas and access routes would be located within disturbed or developed areas within Caltrans R/W.

Borrow

It is anticipated that construction of the Project would not require borrow (i.e., excess fill soil from off site). A portion of the excess soil would be used as an earthen buttress to stabilize an ancient landslide in the northwest quadrant of the I-5/Genesee Avenue interchange as part of this Project. The remainder of the excess soil would be disposed of off site in accordance with Caltrans' standard specifications.

Landscaping

The Project would be landscaped in accordance with the measures identified in the Visual Impact Assessment and the I-5 North Coast Corridor Project Design Guidelines. This would include the following aesthetic elements:

- Architectural features, textures, integral concrete colors, and the creative use of materials would be incorporated into walls and other surfaces to create shadow lines and relief, and to reduce apparent scale. Enhanced surface materials such as mosaic tile and weathering steel may also be used if it meets the community design goals.
- Streetscape elements, such as sidewalks, pedestrian-oriented lighting, fencing, and railings, would be designed to reflect corridor-wide design guidelines consistent with context-sensitive solutions.
- Landscape treatment consisting of large shrub and tree massing would provide buffer planting adjacent to the walls. Other planting would enhance the community streetscape and pedestrian experience. Trees, shrubs, and vines would be used to provide erosion control and to prevent graffiti.
- Median oleanders would be replaced where they cannot be preserved.

Construction Phasing, Local Access, and Right-of-Way

It is anticipated that the Proposed Project would be constructed in two phases. The first phase would include reconstruction of the I-5/Genesee interchange, the addition of auxiliary lanes north of Genesee Avenue, and improvements to the Sorrento Valley Road on- and off-ramps. The second phase of Project construction would include the addition of auxiliary lanes south of Genesee Avenue, replacement of the Voigt Drive overcrossing, and realignment of Gilman Drive. Construction of the first phase is anticipated to begin in 2014 and to be completed by 2016. Construction of the second phase would begin between 2015 and 2020 to coincide with the schedule for the proposed I-5 North Coast Corridor project and is expected to be completed in two years. Access to and from adjacent properties would be maintained throughout the construction period.

I-5 would be closed in one direction for ten nights during construction of the Genesee Avenue and Voigt Drive overcrossings. In addition, it may be necessary to close each of the northbound and southbound on- and off-ramps at the I-5/Genesee Avenue interchange and the northbound off-ramp and southbound on-ramp at the I-5/Sorrento Valley Road interchange for one day per ramp. Temporary freeway closures would result in diversion of through traffic to alternative routes; however, construction would be scheduled during nighttime or early morning hours, and a Traffic Management Plan (TMP) would be implemented. Ramp closures would require traffic diversion to alternative routes, including La Jolla Village Drive, North Torrey Pines Road, and the Genesee Avenue segments between these roadways. Ramp closures would be staged on

separate days. Preliminary construction staging for Phase I of the Project would occur in four stages. The traffic configuration would vary per stage. Below is a list of work to be done:

Construction Staging for I-5/Genesee Avenue Interchange (Phase I)

Stage 1

Existing traffic configuration would remain open during this stage.

- Construct earthen buttress for landslide mitigation along southbound off-ramp
- Construct temporary segment of I-5 northbound on-ramp
- Construct temporary segment of I-5 northbound off-ramp
- Construct temporary segment of I-5 southbound on-ramp
- Construct temporary segment of I-5 southbound off-ramp
- Remove and pave existing raised median at Genesee Avenue (west)
- Remove and pave existing raised median at Genesee Avenue (east)
- Construct southwest retaining wall 18 along Genesee Avenue
- Construct southeast retaining wall 11 along Genesee Avenue
- Construct temporary paving along southwest Genesee Avenue
- Construct temporary paving along southeast Genesee Avenue
- Construct re-striping and signing revisions
- Construct temporary traffic signals

Stage 2

I-5 traffic entering from and exiting to Genesee Avenue would move through temporary ramp terminals. Westbound Genesee Avenue traffic would be shifted south at the east end of the work zone.

- Construct retaining wall 8
- Construct retaining wall 21
- Construct retaining wall 17
- Construct I-5 northbound auxiliary lane between Genesee Avenue and Sorrento Valley Road, and widen Sorrento Valley Road off-ramp
- Construct I-5 northbound on-ramp
- Construct retaining wall 4
- Construct I-5 northbound off-ramp
- Construct retaining wall 1
- Construct retaining wall 3
- Construct the I-5 southbound on-ramp
- Construct northwestern retaining wall 14 along Genesee Avenue

- Construct northeastern retaining wall 10 along Genesee Avenue
- Widen southbound on-ramp from Sorrento Valley Road
- Construct auxiliary lane and I-5 southbound off-ramp
- Construct north section of Genesee Avenue overcrossing
- Construct northwestern Genesee Avenue roadway
- Construct northeastern Genesee Avenue roadway

Stage 3

There would be no direct access from westbound Genesee Avenue to the southbound on-ramp. A temporary detour would be implemented to access the southbound on-ramp by routing traffic beyond the interchange and using a U-turn onto eastbound Genesee Avenue to access the southbound on-ramp. This stage also would require short-term interruption of traffic from the northbound off-ramp to westbound Genesee Avenue. A temporary detour would be implemented during this stage.

This stage would be constructed using 24-hour-per-day and other accelerated construction techniques to minimize the amount of time that any intersection movements would be closed. This stage is intended to last no more than two days.

- Westbound and eastbound Genesee Avenue traffic to use new northern side of Genesee Avenue roadway section
- For access to southbound on-ramp from eastbound Genesee Avenue, use temporary roadway section
- For access to eastbound Genesee Avenue from northbound off-ramp, use new northbound off-ramp

Work to be done in Stage 3 includes the following:

- Construct southbound on-ramp roadway tie-in section to northern side of Genesee Avenue roadway section
- Construct northbound off-ramp roadway tie-in section to northern side of Genesee Avenue roadway section
- Construct tie-in on southbound on-ramp from Sorrento Valley Road

Stage 4

All ramp traffic would occur on new ramps. During this stage, westbound and eastbound Genesee Avenue traffic would use the northern side Genesee Avenue roadway section.

- Construct southwestern side of Genesee Avenue roadway section
- Construct southeastern side of Genesee Avenue roadway section
- Construct southern section of Genesee Avenue overcrossing
- Final striping and permanent signing
- Traffic signalization

- Landscaping

A detailed stage construction and traffic handling plan would be developed during the Plans, Specifications, and Estimates (PS&E) stage to mitigate impact to traffic.

Construction Staging for Voigt Drive/Gilman Drive (Phase 2)

Construction for Voigt Drive and Gilman Drive would occur in three stages. Existing traffic configuration would remain open during construction as described below:

Stage 1

- Construct temporary pavement at southern end of Project limit on Gilman Drive (± 200 m [660 ft])
- Re-stripe and signing revisions
- Traffic signal modifications

Stage 1A

- Construct northern half of Voigt Drive overcrossing
- Construct northern half of proposed Voigt Drive alignment/roadway section
- Construct retaining wall 9 at northeastern side of Voigt Drive overcrossing
- Construct western half of the proposed Gilman Drive roadway alignment/roadway section
- Construct retaining wall 2 along western side of Gilman Drive
- Construct retaining wall 20 along western side of Gilman Drive
- Construct retaining wall 13
- Construct retaining wall 15
- Construct retaining wall 16

Stage 2

- Construct Voigt Drive/Gilman Drive intersection roadway section
- Construct intersection (access to an existing parking lot) at eastern end of Voigt Drive overcrossing

Stage 3

- Construct southern half of Voigt Drive overcrossing
- Construct southern half of proposed Voigt Drive alignment/roadway section
- Construct eastern half of proposed Gilman Drive roadway alignment/roadway section
- Construct northbound auxiliary lane from La Jolla Village Drive to Genesee Avenue
- Construct southbound auxiliary lane from Genesee Avenue to La Jolla Village Drive
- Construct final striping and permanent signing

- Landscaping

Much of the proposed improvements would be constructed within the existing I-5 R/W. The following improvements are proposed outside the existing R/W and would require a combination of new permanent R/W, temporary construction easements (TCEs), and permanent easements (PEs) as indicated:

- Grading to construct the northbound auxiliary lane north and south of Genesee Avenue (new Caltrans R/W)
- Grading to realign the northbound on-ramp and construct a retaining wall north of Genesee Avenue (new Caltrans R/W)
- Grading to widen Genesee Avenue east of the I-5 interchange and construct a retaining wall north of Genesee Avenue (new City R/W)
- Access for construction and maintenance of a retaining wall along the northbound off-ramp south of Genesee Avenue (TCE and PE)
- Modification of Voigt Drive east and west of I-5 to tie the widened overcrossing into the existing lane configuration of Voigt Drive (new City R/W, TCE)
- Grading to construct the southbound auxiliary lane from just south of Voigt to Genesee Avenue (new Caltrans R/W)
- Construction of the southbound on-ramp and retaining wall (new Caltrans R/W)
- Grading and construction of retaining walls for widening of Genesee Avenue west of the interchange (new City R/W)

1.4.2 Transportation System Management (TSM) Alternative

The TSM Alternative consists of strategies to maximize efficiency of the existing facilities by providing options, such as ridesharing, parking, and traffic signal optimization. TSM options to improve traffic flow typically increase the number of vehicle trips a facility can carry without increasing the number of through lanes. This ability to increase the number of vehicle trips is often included during consideration of existing and forecast operational characteristics of a facility. Such strategies include replacing existing stop signs with traffic signals at intersections to improve existing peak hour traffic flow and to reduce queuing of vehicles. TSM also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. As stated previously, TSM measures alone would not satisfy the purpose and need of the Project. The following TSM measures would be incorporated into the Project:

- Metering of on-ramps (Sorrento Valley Road and Genesee Avenue), warranted by entering volumes
- Auxiliary lanes in both directions between La Jolla Village Drive and Genesee Avenue and between Genesee Avenue and Sorrento Valley Road
- Traffic signal optimization at the I-5/Genesee Avenue ramp intersections

1.4.3 Traffic Demand Management (TDM) Alternative

The TDM Alternative focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled, as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choices in

BICYCLE AND PEDESTRIAN MASTER PLANNING STUDY



University of California, San Diego

Acknowledgements:



This Bicycle and Pedestrian Master Plan Study was prepared for the University of California, San Diego and the City of San Diego.

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Deborah Steger	Health Sciences
Kris Wells	Student Affairs, UCSD Bike Shop
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Additional input was provided by participants at two Community Workshops, the staff of the Stuart Collection and almost 2,000 respondents via the project opinion survey.



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Bicycle and pedestrian planning and transportation engineering support provided by Fehr & Peers Transportation Consultants.

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Executive Summary

This Bicycle and Pedestrian Master Planning Study will guide design and implementation of mobility infrastructure and programs as the campus population grows and facilities are planned and sited. The overall approach for this master plan study is summarized in the following paragraphs, which also constitute the planning goals for this study.

- It is imperative that a “cycling and walking perspective,” guide bike and pedestrian planning. The unique characteristics, needs and priorities of these users must be taken into account when making walking and cycling decisions on use policies or facilities.
- Cycling and walking are fundamental components of campus transportation planning, which addresses bicycle facilities on and off streets, pedestrian facilities of all types, as well as modal integration at transit centers and parking facilities.
- Planning for bicycles should not be focused on any particular facility type so much as it should be focused on the safe and efficient travel of cyclists, while addressing pedestrians’ needs where shared use is appropriate. This will generally require both the use of the existing transportation infrastructure and the construction of special facilities for cyclists.
- The coexistence of pedestrians, cyclists and drivers on roads and pathways requires that all are sensitive to and recognize a common set of rules. Training, education and enforcement are as important as physical planning and design.
- Facility maintenance, monitoring and performance assessment are critical for ensuring safe and efficient travel for cyclists and pedestrians. Planning for them is an ongoing process.
- Campus land use and transportation planning should continue to support projects that reduce automobile dependence. This study acknowledges and supports future land use and population projections with facility and program recommendations to continue to reduce auto reliance.

Mobility Vision

The study vision is a campus where the majority of its students, staff, faculty and visitors commonly walk, bike or use public transit to get to and around the campus, instead of automatically reaching for their car keys. Many other campuses and communities are pursuing a similar vision, but this study proposes a mobility blueprint tailored for this university’s unique mix of topography, layout, transportation infrastructure and climate. The expected benefits include physical, social and mental health improvements for those who choose to bike or walk as well as lowered transportation costs and in many cases, time savings. Benefits are also available for those who do not walk or bike. These benefits include reduced traffic, lowered parking congestion, cost savings for the campus from lower parking infrastructure investments, improved air quality and lowered green house gas emissions.

“UC San Diego is intent upon becoming a state-of-the-art, carbon-neutral campus that embraces sustainable facility designs and maximizes “green” operations.”

Source: LRDP

Findings and Recommendations



Bicycle Circulation

Improved campus connections with the overall regional bike network will become increasingly valuable as commuting by bicycle increases and access to the campus from surrounding areas is sought as a mobility option. Decisions by students, faculty and staff on where they choose to live and how they access the campus will be influenced by the perceived completeness and safety of bike facilities accessing the campus.

Bike-specific facilities on the campus are difficult to find and do not represent a connected network between origins (student housing, parking hubs and transit stops) and destinations (classrooms, support facilities and employment centers).

Community and Regional Connections

Connections across Interstate 5, with surrounding communities and the overall region are of paramount importance for enabling the university community to make bicycle circulation a viable commuter mode. This will require close coordination with the California Department of Transportation (Caltrans), the San Diego Association of Governments (SANDAG) and the City of San Diego to ensure that planned improvements are implemented in a timely manner and that they connect with the campus in a way that will make potential bicycle commuters seriously consider riding instead of driving.

Intra-campus Movement

Once on campus, bicycles also play a significant intra-campus travel role since the campus is large enough to make cycling convenient, but small enough to put all campus destinations within a reasonable cycling range. Quality facilities, including clear wayfinding and convenient bike parking, can make the difference between riding and not riding. Support programs can also help to encourage bicycle use, such as a centralized web portal where users can access information on bicycle facilities, suggested routes, parking, training, classes and other services to make cycling more convenient.



Pedestrian Circulation

All trips involve walking at some point. Within the campus itself, the eucalyptus-shaded walking environment is and will continue to be a distinctive campus feature and should be carefully maintained and employed as the backbone that supports the overall mobility network.


Some routes would benefit from improved lighting and better surfaces. Other routes are not direct between destinations while some are too steep to meet universal accessibility goals. Others lack adequate distinction between pathways and driving surfaces and some pathways end abruptly.

Other Mobility Modes

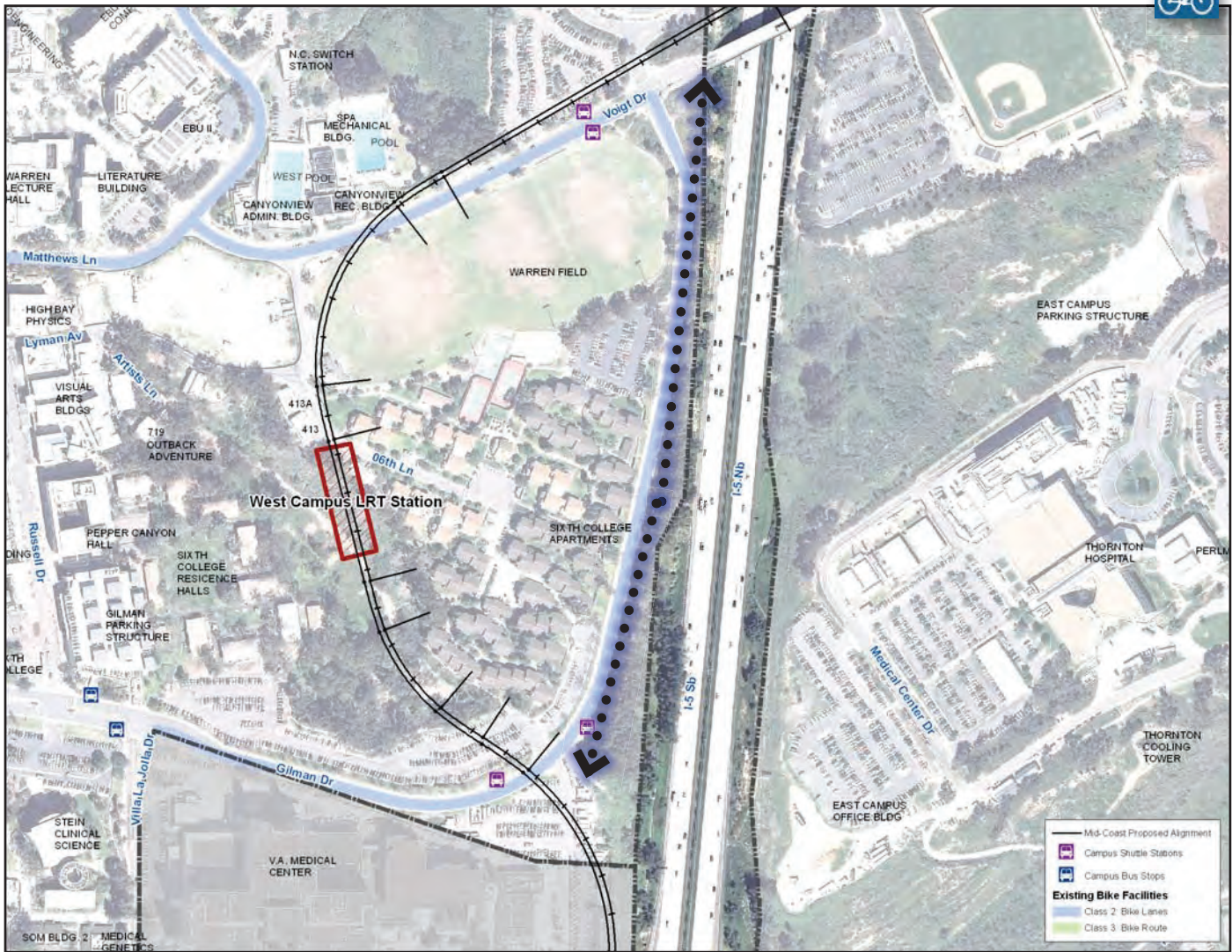
Linking these improvements with other mobility modes, such as shuttles, buses and light rail, enhances the effectiveness of all since some intra-campus trips and many commuting trips involve more than one mode. Making the connections between modes as seamless as possible will do much to encourage faculty, staff, students and visitors to arrive via some other mode than driving their own vehicle.

Long-range Planning

With adoption of the 2004 *Long Range Development Plan* (LRDP), the UC San Diego campus is anticipating significant enrollment growth and an increase in the proportion of undergraduate students living on campus with the stated goal of 50 percent on-campus housing for these undergraduates.

This study's recommendations support the university's long-term vision of a more sustainable footprint with a substantially smaller reliance on the automobile, as well as implications for a genuine evolution in land use planning, particularly since it will no longer be necessary to house the numbers of parked vehicles assumed in the past. The reduction in parking lots and structures from what was once envisioned will provide the space for more efficient multi-functional development, such as buildings that combine housing, classrooms and services and inspiring outdoor spaces that take advantage of the university's climate and unique character. 

4. Gilman Bicycle Path Connection



Problem:

- With construction of Class 1 bicycle path along Interstate 5 corridor, terminus of bicycle path is at Voigt Drive.

Proposed Improvement:

- Continue Class 1 bicycle path along Gilman Drive via joint-use agreement between UC San Diego and Caltrans. (Bicycle path would connect north to Class 1 at new Voigt Drive bridge and south to bicycle facility on new Gilman Drive bridge.)

Background

The Interstate 5/Genesee Avenue Interchange Project, funded by Caltrans, SANDAG and the City of San Diego, will include the construction of a Class 1 bicycle path between the Sorrento Valley Coaster Station and UC San Diego. The path will generally follow the west edge of Interstate 5. As planned, the path will terminate north of Voigt Drive near the Campus Services Complex. This planned project is highly anticipated by the community.

This project is one of the BPMPs Top 5 priority projects. In BPMPs community workshops and online surveys, the campus community indicated a desire for a bicycle path to connect to the future Caltrans bicycle path.

Description of Need

UC San Diego is one of the region's top universities and a major employer and students, faculty and staff travel to the campus from throughout the region. Campus commuters predominantly drive. Approximately 11 percent of the campus community currently walks or bikes to campus and another 11 percent currently takes transit. The Metropolitan Transit System (MTS) is the primary commuter transit provider on campus. Regional commuter rail, provided by the North County Transit District, comes within 1.5 miles of the UC San Diego campus, but has no convenient connection for commuters who wish to walk or bike to campus.

The proposed bicycle path west of Interstate 5 will provide a basic connection between the Sorrento Valley Coaster Station and UC San Diego. However, as proposed, the bicycle path in Caltrans' right-of-way will stop just north of Voigt Drive, far from key campus destinations.

Extending the bicycle path south of Voigt Drive will offer students, faculty, staff and visitors a safe and viable transportation option for biking to the UC San Diego campus from the Sorrento Valley Coaster Station. Members of the campus community would use the facility year-round.

Project Description

The proposed project would add a Class 1 bicycle path on the east side of Gilman Drive between Voigt Drive and the future Gilman Drive bridge over Interstate 5. This segment is approximately 2,000 feet in length and would better connect to key campus destinations and the Veterans Administration Medical Center. The path would connect directly to the Voigt Drive/Gilman Drive intersection and the intersection of Gilman Drive with the new Gilman Drive Bridge over Interstate 5.

Gilman Drive Options

North End

At the north end of the project, the Class 1 bicycle path along Interstate 5 could connect to Voigt Drive with an underpass of Gilman Drive immediately south of their intersection in addition to an at-grade crossing at the intersection. This would provide a safer connection to the campus for cyclists transitioning to Voigt Drive westward into the campus, if a Class 1 pathway was also provided.

South End

At the south end of the project, the Class 1 bicycle path could pass under the proposed Gilman Drive alignment at the bridge over Interstate 5 and loop around to align with the proposed north-south leg of Gilman Drive to form a four-way, stop-controlled intersection. The fourth leg would be the southern terminus of the Class 1 bicycle path. This would be a safer transition for cyclists leaving the bicycle path and proceeding on Gilman Drive.

Mid-segment

If North Coast Project construction of does not leave enough space for the development of both a Class 1 bicycle path and Class 2 bicycle lanes on Gilman Drive, Class 3 bicycle route could instead be designated and defined by signage and sharrows since they do not require additional space like Class 2 bicycle lanes. In any case, the Class 1 bicycle path should be included. If, for some reason, it can not be implemented, a Class 2 or 3 facility on Gilman Drive must be maintained to support this regionally significant route.

Cost Estimate

\$407,640

Candidate Funding Sources

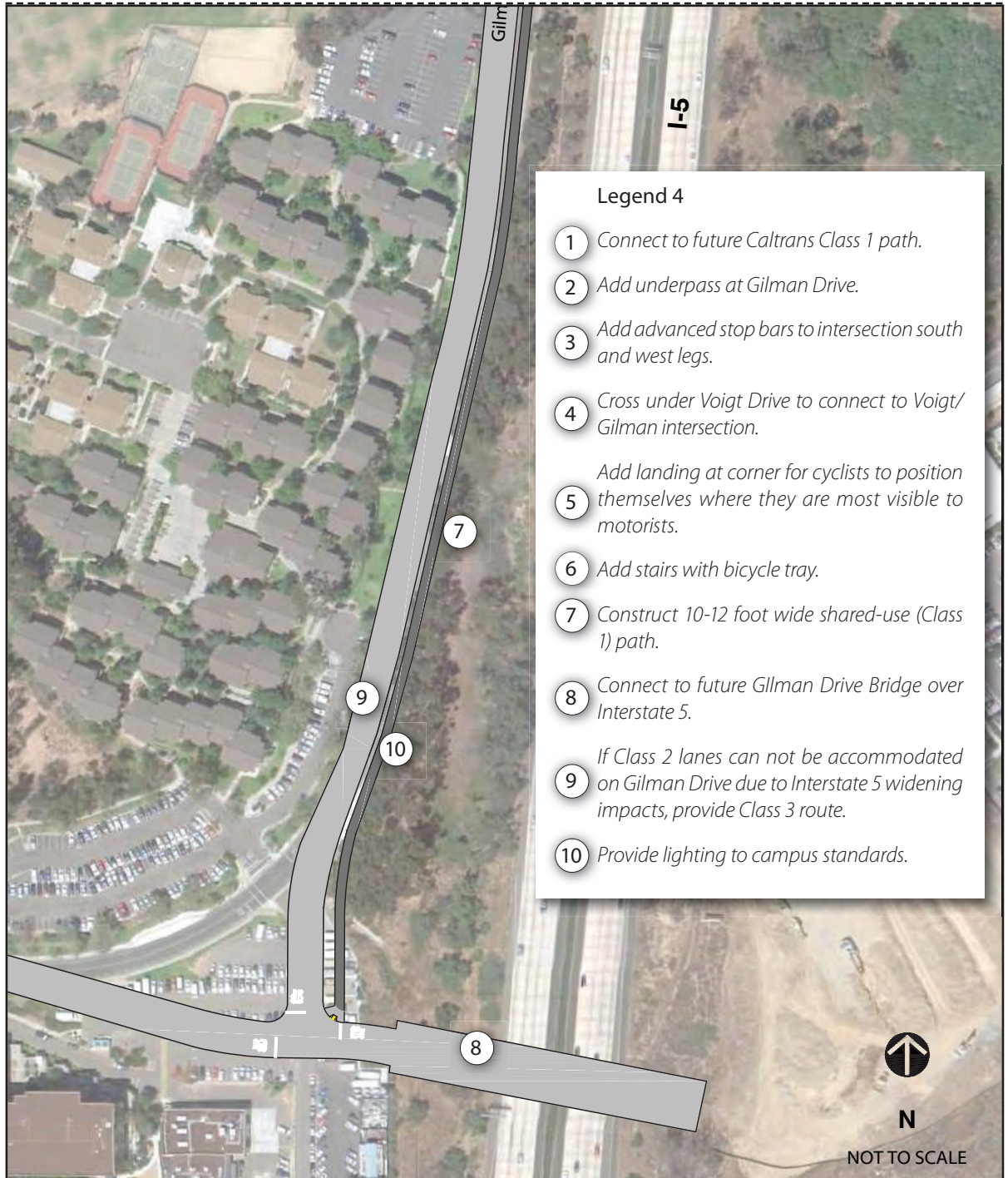
- Caltrans North Coast Project

4. Gilman Drive Bicycle Path Connection



Match Line 4

Match Line 4





State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
<http://www.dfg.ca.gov>

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



July 20, 2012

Mr. Jeffrey Szymanski
City of San Diego
1222 First Avenue, MS-501
San Diego, CA 92101

Subject: Comments on the Notice of Preparation of a Program Environmental Impact Report (PEIR) for the Bicycle Master Plan, San Diego, CA (SCH# 2012031075)

Dear Mr. Szymanski:

The Department of Fish and Game (Department) has reviewed the above-referenced Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) for the Bicycle Master Plan for the City of San Diego (City) in the County of San Diego. The City has an approved Subarea Plan (SAP) and Implementing Agreement (IA) under the Subregional Multiple Species Conservation Program which is a State-approved Natural Community Conservation Plan. The proposed project consists of an update to the 2002 City of San Diego Bicycle Master Plan, which includes a bicycle network, related projects, policies, and programs. The Bicycle Master Plan covers segments as far south as San Ysidro Boulevard and as far north as Mira Mesa Boulevard.

The PEIR for the proposed plan must ensure and verify that all requirements and conditions for the SAP and IA are met. Issue areas in the PEIR that may be influenced by the SAP and IA include, "Land Use," "Visual Quality/Neighborhood Character," "Biological Resources," "Geologic Conditions," "Drainage/Urban Runoff/Water Quality," "Noise," "Air Quality," "Greenhouse Gas Emissions," and "Cumulative Effects." The PEIR should also address biological issues that are not addressed in the SAP and IA, such as specific impacts to and mitigation requirements for wetlands, sensitive species, and habitats that are not addressed by the SAP and IA. In addition, the environmental document should describe why the proposed project, irrespective of other alternatives to the project, is consistent with and appropriate in the context of the SAP.

Specifically, the Department encourages the City to design bicycle paths that do not bisect existing open space. Bicycle transport routes which bisect open space have potential implications for wildlife including but not limited to: edge effects, increased road kill, and lighting/noise impacts. Where such designs cannot be avoided, fencing, under-crossings, and signage are recommended to minimize impacts to open space and associated wildlife.

Mr. Jeffrey Szymanski

July 20, 2012

Page 2 of 2

Thank you for the opportunity to comment. Please contact Jennifer Edwards at (858) 467-2717 or via email at jedwards@dfg.ca.gov if you would like to discuss this response to the NOP.

Sincerely,

A handwritten signature in cursive script, appearing to read "Stephen M. Juarez".

Stephen M. Juarez
Environmental Program Manager
South Coast Region

cc: David Zoutendyk, U.S. Fish and Wildlife Service
Scott Morgan (State Clearinghouse, Sacramento)

BIOLOGY SURVEY REPORT

APPENDIX C

**UNIVERSITY CITY TRANSPORTATION CORRIDOR
BIOLOGICAL RESOURCES REPORT
AND IMPACT ANALYSIS
SAN DIEGO, CA**

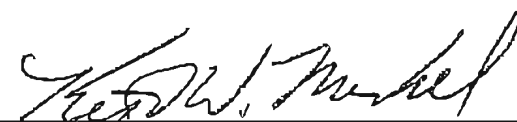
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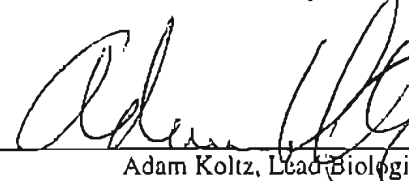
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May 13, 2004
Revised September 29, 2004



Keith Merkel, Principal Consultant



Adam Koltz, Lead Biologist

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**BIOLOGICAL RESOURCES REPORT
AND IMPACT ANALYSIS
UNIVERSITY CITY TRANSPORTATION CORRIDOR**

Merkel & Associates, Inc.
September 29, 2004

MANAGEMENT SUMMARY/ABSTRACT

The purpose of this biological survey was to identify the biological resources present and analyze biological impacts in a defined study area, within which are planned transportation system modifications to improve the traffic flow in a generally north/south direction in the University City Community of the City of San Diego. Seven alternatives for the project are being evaluated: 1) no project; 2) constructing a bridge to allow Regents Road to cross Rose Canyon; 3) widening Genesee Avenue (which currently crosses Rose Canyon and San Clemente Canyon); 4) grade separation at Genesee Avenue and Governor Drive; 5) Grade separation and Regents Rroad Bridge, 6) a combination of constructing a bridge to allow Regents Road to cross Rose Canyon; and widening Genesee Avenue, and 7) Limited Roadway Changes, including new left turn lanes at the interchanges of SR52 with Genesee Avenue and Regents Road.

The existing conditions confirmed the presence of biological resources typical of the canyon/mesa complex within the urban interface. Rose Canyon and San Clemente Canyon are typical riparian corridors running generally east and west through the study area. The canyon slopes and much of the floor are covered with Non-native Grassland, and various forms of sage scrub extend up from the canyon bottoms to the urbanized mesas. Rose Canyon is the subject of the majority of project construction impacts, and also provides the majority of the sensitive resources in the study area. Both canyons are part of the Multiple Species Conservation Plan's (MSCP) Biological Core and Linkage Area and are identified as Core Resource Areas (within the specific Kearny Mesa Core Resource Area). The native habitats in both Rose Canyon and San Clemente Canyon are part of the City of San Diego's Urban Area Multi-Habitat Planning Area (MHPA).

In addition to conducting general biological surveys and a jurisdictional wetland delineation, focused, protocol surveys were performed for the Least Bell's Vireo (*Vireo bellii pusillus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and California Gnatcatcher (*Polioptila californica californica*). The vireo and flycatcher surveys yielded negative results in that neither species was detected during the investigations. Two pairs of gnatcatchers were observed using numerous small patches of Coastal Sage Scrub vegetation in Rose Canyon, in the vicinity of the proposed Regents Road Bridge. Sensitive plants found within the study areas include San Diego Sagewort (*Artemisia palmeri*), Clay-field Goldenbush (*Isocoma menziesii* var. *decumbens*) and Spiny Rush (*Juncus acutus* spp. *leopoldii*). Although not verified by formal investigations, both Rose Canyon and San Clemente Canyon serve as wildlife movement corridors.

The impact analysis indicates that Alternative 5 (Regents Road Bridge and Rose Canyon Combination) would result in the most significant biological impacts. The least impactful alternatives would be "No Project" and "Grade Separation at Genesee Avenue and Governor Drive". The Mitigation Element proposes actions such as habitat restoration that are expected to lower the

impacts to a level below significance. The Notice and Protection Elements provide guidance for the long-term protection of the proposed mitigation sites.

INTRODUCTION

Merkel & Associates, Inc. (M&A) performed a series of biological investigations for the University City Transportation Corridor Project at the request of Project Design Consultants, on behalf of the City of San Diego. The biological investigation included general biological surveys, a jurisdictional wetland delineation, and focused, protocol surveys for the Least Bell's Vireo (*Vireo bellii pusillus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and California Gnatcatcher (*Poliopitila californica californica*). The purpose of these investigations was to determine the extent of biological resources present within the two study corridors, identify potential biological resource impacts resulting from the proposed project, and recommend measures to avoid, minimize, and/or mitigate project impacts consistent with the California Environmental Quality Act (CEQA) and the City of San Diego Multiple Species Conservation Plan (MSCP) Subarea Plan.

PROJECT DESCRIPTION

The proposed project involves planning for transportation system modifications to improve the traffic flow in a generally north/south direction in the University City Community of the City of San Diego. This public project involves seven alternatives in the San Clemente Canyon and Rose Canyon areas in the vicinity of Genesee Avenue and Regents Road, in the City of San Diego. The alternatives are 1) No Project; 2) Regents Road Bridge; 3) Genesee Avenue Widening; 4) Genesee Avenue/Governor Drive Intersection grade separation; 5) Grade Separation and Regents Road Bridge, 6) Regents Road Bridge and Genesee Avenue Widening Combination, and 7) Limited Roadway Changes.

Alternative 1 - No Project

As the name suggests, this alternative involves no project. Therefore, the existing biological conditions would remain unchanged. Since this alternative would not impact biological resources, it is not analyzed further in this report.

Alternative 2 - Regents Road Bridge

The Regents Road Bridge alternative proposes the continuation of Regents Road across Rose Canyon, a length of 1,600 feet (0.30 mile). As it exists, Regents Road provides 4 lanes of traffic (2 in each direction), from State Route 52 to approximately 450 feet north of Governor Drive where it narrows to 2 lanes and terminates. Under this alternative, Regents Road would continue over Rose Canyon in the form of a bridge that would be constructed as a Four-Lane Major Arterial from the vicinity of Lahitte Court to the north end of Rose Canyon. Additionally, the portion of Regents Road that is located approximately 450 feet north of Governor Drive in the vicinity of Lahitte Court, would be expanded to create 4 lanes of traffic (2 in each direction). The bridge would span a length of approximately 861 feet across the canyon. Approximately 480 feet of support walls would be required, and manufactured slopes would extend horizontally to a maximum of 150 feet. Rights-of-way (permanent easements) would be required in the canyon to construct the slopes and the walls. A portion of the existing trail from Regents Road into Rose Canyon would need to be reconstructed.

Alternative 3 - Genesee Avenue Widening

The Genesee Avenue alternative involves the widening of Genesee Avenue from State Route 52 to Nobel Drive, a length of approximately 7,700 feet (1.46 miles). Genesee Avenue, currently a four-lane road, would be widened to a Six-Lane Major Arterial. This would be accomplished by reducing the median from 16 feet to 8 feet and the parkway from 10 feet to 6 feet. Approximately 5,900 linear feet of wall would be required; normal height would vary from 4 to 12 feet, but the tallest wall would be 22 feet, near State Route 52. The slopes would be about 15 feet average and the maximum horizontal extent of slopes would be approximately 70 feet. The existing rights-of-way would accommodate most of the basic cross section (roadway and parkway); however, additional land (in fee) would be required at the intersections, with other streets and major driveways, to accommodate the basic cross section. Additional rights-of-way (permanent easements) would also be required to construct the slopes and the walls.

Alternative 4 – Grade Separation at the Intersection of Genesee Avenue and Governor Drive

This alternative is not further discussed herein, because it occurs entirely within developed land; therefore, a biological analysis was not deemed necessary.

Alternative 5 – Grade Separation and Regents Road Bridge

This alternative is not discussed separately in this report because the biological impacts would be the same as those for the Regents Road Bridge alternative.

Alternative 6 – Regents Road Bridge and Genesee Avenue Widening Combination

The Regents Road Bridge and Genesee Avenue Widening Combination involves the combination of Alternative 2 (Regents Road Bridge) and Alternative 3 (Genesee Avenue Widening).

Alternative 7 – Limited Roadway Changes

Three potential roadway changes have been proposed for construction with or without all or some of the alternatives discussed above. These are SR52/Genesee Avenue Interchange (addressed in this report as part of Genesee widening), SR 52/Regents Road Interchange (addressed in this report as a separate Limited Roadway Change), and Governor Drive Left-Turn Lane (not addressed in this report because of lack of biological impacts).

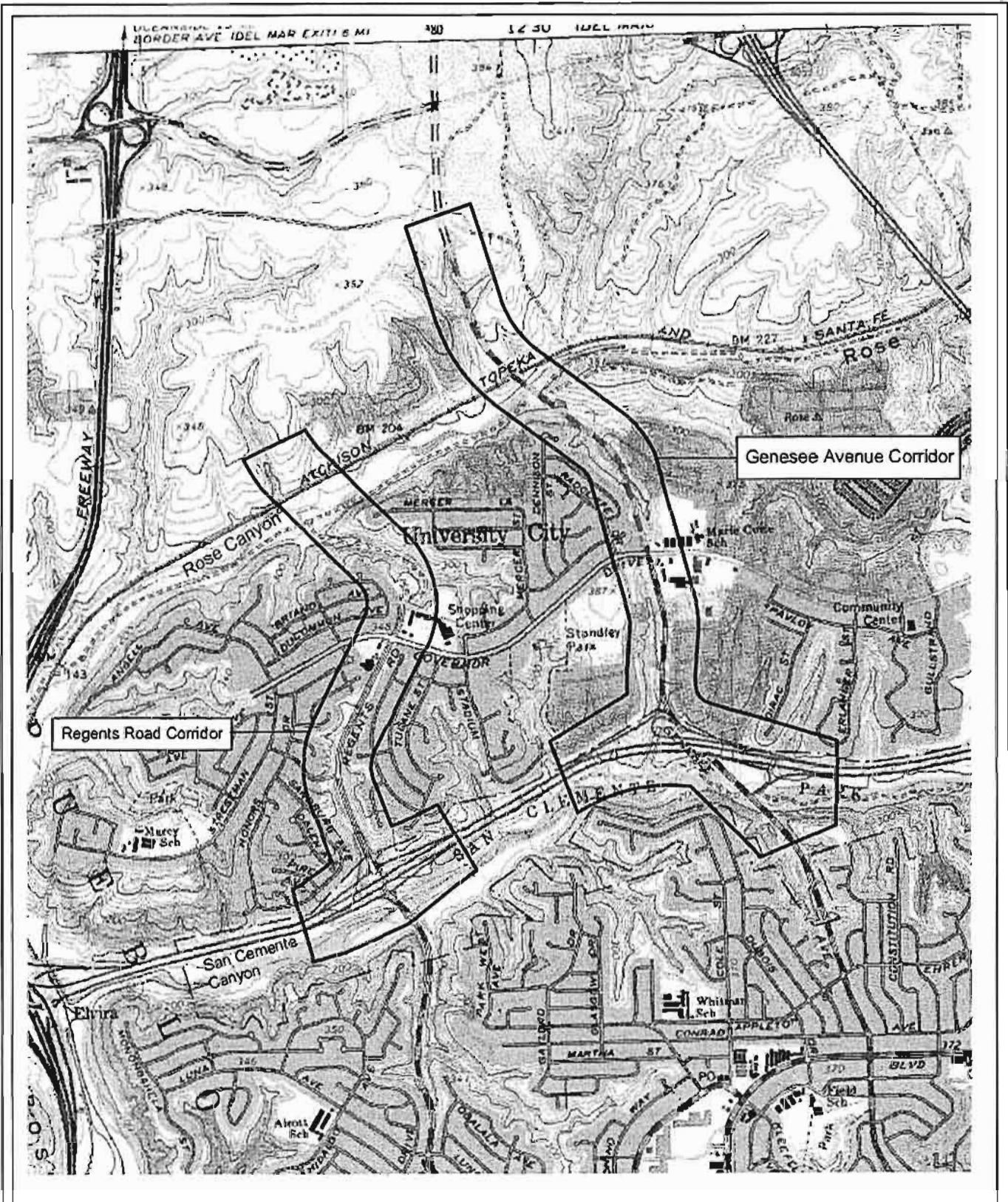
LOCATION

The University City Transportation Corridor study area, which encompasses all the possible project alternatives, is located in and between the San Clemente Canyon and Rose Canyon areas of the City of San Diego, between Interstate 5 to the west and Interstate 805 to the east. The Corridor is located in unsectioned land of Township 15 South, Range 3 West of the San Bernardino Base Meridian, 7.5' La Jolla, California USGS Quadrangle (Figure 1).

METHODS

The biological surveys and analysis for the University City Transportation Corridor project were conducted in accordance with the City of San Diego's (City) Guidelines for Conducting Biology

Surveys (City of San Diego 2002a) and the City's Land Development Code Biology Guidelines (City of San Diego 2001). The survey effort consisted of general biological surveys and U.S. Fish and Wildlife Service (USFWS) protocol surveys for the Least Bell's Vireo, Southwestern Willow Flycatcher, and California Gnatcatcher. The surveys were conducted in May, June, and July 2003. Additionally, in October 2003, a jurisdictional wetland delineation was performed. In September 2004, additional field work, including a jurisdictional wetland delineation, was conducted at the Regents Road bridge over the Marian Bear Park access road near the SR 52/Regents Road Interchange. A designated study area, including two corridors – one over the alignment of Regents Road (from State Route 52 to north of the SDNR/Coaster Railroad Track), and the other over the alignment of Genesee Avenue (from State Route 52 to north of Nobel Drive), was provided to M&A by Project Design Consultants. The study area was designed to encompass the all the project alternatives. The Least Bell's Vireo and Southwestern Willow Flycatcher protocol surveys and wetland delineation, however, were limited to the proposed impact area that contained suitable habitat. Table 1 summarizes the survey information, and the following text details the methods for each survey.



N
W E
S
1" = 2000'

University City Transportation Corridor Vicinity Map

Figure 1

Table 1. Survey Information

DATE	TIME	CONDITIONS	PURPOSE	STAFF
May 21, 2003	0830-1130	Partly sunny, 20% cloud cover Wind 1-2 mph West Temp. 68-75°F.	Least Bell's Vireo Protocol Survey	Melissa Booker
May 30, 2003	0745-1030	Overcast Wind calm Temp. 60°F.	Least Bell's Vireo and Southwestern Willow Flycatcher Protocol Surveys	Geoff Rogers
June 5, 2003	0900-1200	Overcast Wind 0-3 mph Temp 62-65°F.	California Gnatcatcher Protocol Survey	Geoff Rogers
June 9, 2003	0645-1012	Overcast Wind 0-4 mph Temp. 68-70°	Least Bell's Vireo Protocol Survey	Adam Koltz
June 13, 2003	0930-1045	Partly sunny, 10-5% cloud cover Wind 0-3 mph Temp. 60-65°F.	California Gnatcatcher Protocol Survey	Diana Jensen
June 19, 2003	0745-1130	Overcast Wind calm Temp. 60-66°F.	Least Bell's Vireo and Southwestern Willow Flycatcher Protocol Surveys	Geoff Rogers
June 23, 2003	0930-1045	Overcast Wind calm Temp. 64°F.	California Gnatcatcher Protocol Survey	Adam Koltz
June 23, 2003	0930-1530	Overcast Wind calm Temp. 64°F.	General Biological Survey	Kyle Ince
June 24, 2003	0900-1000	Overcast Wind 0-3 mph Temp. 64°F.	California Gnatcatcher Protocol Survey	Adam Koltz
June 24, 2003	0900-1600	Overcast Wind 0-3 mph Temp. 64°F.	General Biological Survey	Kyle Ince
June 27, 2003	0800-1100	Overcast Wind calm Temp. 60-67°F.	Southwestern Willow Flycatcher Protocol Survey	Geoff Rogers
June 30, 2003	0800-1100	Overcast, clearing to 0% cover Wind 0-1 mph Temp. 68-74°F.	Least Bell's Vireo Protocol Survey	Antonette Gutierrez
July 9, 2003	0800-1120	Overcast, clearing to 50% cover Wind 0-2 mph Temp. 64-70°F.	Southwestern Willow Flycatcher Protocol Survey	Geoff Rogers
July 10, 2003	0745-1130	Overcast Wind 0-2 mph Temp. 73-74°F.	Least Bell's Vireo Protocol Survey	Adam Koltz

DATE	TIME	CONDITIONS	PURPOSE	STAFF
July 16, 2003	0750-1030	Overcast, clearing to 20% cover Wind calm Temp. 65-70°F	Southwestern Willow Flycatcher Protocol Survey	Geoff Rogers
July 21, 2003	0735-1100	Partly sunny, 30% cloud cover Wind 2-6 mph Temp. 70-84°F.	Least Bell's Vireo Protocol Survey	Melissa Booker
July 31, 2003	0825-1005	Overcast clearing to 90% cover Wind 0-2 mph Temp. 70-72°F.	Least Bell's Vireo Protocol Survey	Melissa Booker and Amanda Gonzales
Oct 8, 2003	0930-1530	Sunny, 0% cloud cover Wind 0-2 mph Temp. 72-75°F	Jurisdictional Wetland Delineation	Stephen Rink and Daylon Teel
Feb 18, 2004	1030-1200	Sunny, 0% cloud cover Wind 2-4 mph Temp. 65-68°F	Rare Plant Survey	Adam Koltz
Mar 23, 2004	1000-1200	Overcast Wind 5-10 mph Temp. 65°F	Jurisdictional Wetland Delineation	Kyle Ince and Adam Koltz
Sep 9, 2004	0945-1130	Sunny, 40% cloud cover Winds 3-5 mph Temp. 80°F	Jurisdictional Wetland Delineation	Daylon Teel and Adam Koltz

The scientific nomenclature used in this report is from the following standard references: vegetation and wildlife habitat, Holland (1986) and Oberbauer (1996); flora, Hickman (1993); butterflies, Opler and Wright (1999); amphibians and reptiles, Crother (2000); birds, American Ornithologists' Union (1998 and 2003); and mammals, Wilson and Reeder (1993).

GENERAL BIOLOGICAL SURVEYS

The general biological surveys consisted of vegetation mapping, taking an inventory of the flora and fauna, searches for sensitive species, and identification of the potential presence of sensitive species on-site.

Initially, vegetation communities were determined in-house using color aerial photographs of the site and MSCP information. This information was then transformed into digital Geographic Information System (GIS) data for future ground-truthing. During the general biological surveys, the in-house vegetation mapping was ground-truthed. Vegetation communities and slope exposures within the specified study area were surveyed on-foot. Plant identifications were either resolved in the field or were later determined through verification of voucher specimens. Wildlife species were determined through direct observation (aided by 8 x 40 power binoculars), identification of avian songs or call notes, or by detection of indirect sign (burrows, tracks, scat, etc.).

General Survey Limitations

Complete, comprehensive biological inventories require many of field hours during different seasons, as well as nocturnal sampling for some animal groups such as owls and small mammals. Depending on the season during which the field surveys are conducted, some amphibians, reptiles, migratory birds, mammals, and annual plants can be difficult to inventory. Through a review of pertinent literature, as well as knowledge of the habitat requirements and distribution patterns of individual species, the probability of a given species being present on a site can often be fairly accurately predicted.

JURISDICTIONAL WETLAND DELINEATION

A jurisdictional wetland delineation was performed using the routine on-site determination methods noted in the 1987 U.S. Army Corps of Engineers' (ACOE) Wetland Delineation Manual (ACOE 1987). In addition, the delineation effort was expanded to identify Non-wetland Waters of the U.S. under federal jurisdiction, wetlands and streambeds under the jurisdiction of the California Department of Fish and Game (CDFG), and wetlands under the jurisdiction of the City. The delineation was limited the areas of proposed development. Jurisdictional habitats (wetlands and waterways) within the proposed development area were plotted on an aerial photograph map of the project site. Streambed widths were also noted on the map to provide true jurisdictional dimensions. Evidence supporting jurisdictional determinations was recorded on wetland field data forms and depicted in photographs of the project site.

Within the Regents Road Corridor, the delineation originally was performed only in Rose Canyon, as no Regents Road construction was proposed in San Clemente Canyon. The delineation was performed for the entire width of the study corridor (approximately 1,000 feet), along the alignment of the proposed bridge in Rose Canyon. In September, 2004 the proposed widening of the Regents Road Bridge over San Clemente Canyon was added as a "Limited Roadway Changes" alternative, and consequently a wetland delineation was performed in that area.

Within the Genesee Avenue Corridor, the jurisdictional wetland determination was performed both in Rose Canyon and San Clemente Canyon. The width of the study corridor was approximately 250 feet in San Clemente Canyon and 500 feet in Rose Canyon.

Wetland Parameters

The following text describes the three parameters used to delineate wetlands and Non-wetland Waters of the U.S. Additional information on the overall delineation process and regulatory jurisdictions may be found in the federal delineation manual (ACOE 1987), state and federal enacting legislation, or through guidance provided by judicial interpretation, solicitors' opinions, and regulatory guidance issued to District ACOE offices, CDFG field staff, and City staff.

Vegetation

Vegetation communities which meet the criteria of wetland-associated vegetation are dominated by a preponderance (>50%) of species classified as obligate wetland plants (OBL), facultative wetland plants (FACW), or facultative plants (FAC) based on the **National List of Plant Species that Occur in Wetlands** (USFWS 1988). Obligate wetland plants are defined as occurring almost always in wetlands (estimated probability >99%) under natural conditions. Facultative wetland plants are

defined as occurring usually in wetlands (estimated probability 67% to 99%). Facultative plants are defined as having a similar likelihood of occurring in both wetlands and uplands (estimated probability 33% to 67%). Areas defined as Non-wetland Waters of the U.S. and/or streambed typically lack vegetation or are dominated by upland species, but exhibit wetland hydrologic characteristics.

Hydrology

Hydrologic wetland indicators include both surficial characteristics (*e.g.*, visual observation of surface flow, drainage patterns, watermarks, and drift lines) and sub-surficial characteristics (*e.g.*, presence of free water in the test pit).

Soils

To confirm the presence of hydric soils, soil test pits are excavated using a shovel. Soils taken from depths ranging from 8 to 12 inches are examined for physical and chemical evidence of hydric conditions. Excavated soils are evaluated using the chroma index from the Munsell Soil Color Charts (Munsell Color 2000); however, soil color is not used as the only indicator. Additional indicators of hydric soils such as vertical streaking, high organic matter content in the surface horizon, mottling, and sulfidic odor are also evaluated during the delineation.

Jurisdiction of Wetlands and Waterways

Wetlands and jurisdictional waters on the project site are regulated by one, two, or all of the following agencies: ACOE, CDFG, and City. The following text describes each agency's jurisdiction and enacting legislation.

U.S. Army Corps of Engineers Jurisdiction

Under section 404 of the Clean Water Act, the ACOE has regulatory authority over the discharge of dredged or fill materials into waters of the United States (1344 USC). The term "waters of the United States" is defined in 33 CFR Part 328 and includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. Judicial interpretation under the recent U.S. Supreme Court ruling on the case of Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers has narrowed the historic reading of jurisdiction under 33CFR 328(a)(3).

Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions." Typically all three wetland parameters must be present for an area to be considered a jurisdictional wetland under the ACOE.

In the absence of wetlands, the limits of ACOE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM) which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

California Department of Fish and Game Jurisdiction

CDFG regulates alterations of "streambeds" through the development of a Streambed Alteration Agreement (Agreement) pursuant to Division 2, Chapter 6, sections 1600-1603 of the Fish and Game Code. An Agreement is required whenever a project would "divert, obstruct or change the natural flow or bed, channel or bank of any river, stream or lake designated by the Department."

The breadth of areas subject to regulation by CDFG under section 1600 are less clearly defined than those regulated by ACOE; however, in general, the policies are fairly consistent. It is clear that all rivers, streams, lakes and streambeds which may exhibit intermittent flows of water are covered by the California statutes, and typically only one wetland parameter needs to be present for an area to be considered a jurisdictional wetland under CDFG. Section 1600 *et seq.* does not extend to isolated wetlands and waters such as small ponds not located on a drainage course, wet meadows, vernal pools, or tenajas. Furthermore, department jurisdiction does not extend over tidal waters. However, section 1600 *et seq.* jurisdiction extends over all riparian habitats supported by a river, stream, or lake regardless of the riparian area's federal wetland status.

Unlike the ACOE process, the Streambed Alteration Agreement is not a discretionary permit, but rather an Agreement developed between an applicant and CDFG with mitigation, impact reduction, or avoidance measures. These measures are subject to acceptance by the applicant or may be countered with alternative measures. If an Agreement cannot be reached between CDFG and the applicant, a formal arbitration process is available.

City of San Diego

The City regulates wetlands under the Environmentally Sensitive Lands Regulations (ESL), San Diego Land Development Code, Chapter 14, Division 1, Section 143.0101 *et seq.*, and the Open Space Residential (OR-1-2) Zone, SDLDC, Chapter 13, Division 2, Section 131.0201 *et seq.* These guidelines are the baseline biological standards for processing Neighborhood Development Permits, Site Development Permits, and Coastal Development Permits issued pursuant to the ESL.

Under the ESL, wetlands are considered sensitive biological resources, and the definition of wetlands in the ESL regulation is intended to differentiate uplands (terrestrial areas) from wetlands, and furthermore to differentiate naturally occurring wetland areas from those created by human activities. Except for areas created for the purposes of wetland habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, it is not the intent of the City to regulate artificially created wetlands in historically non-wetland areas unless they have been delineated as wetlands by the ACOE and/or the CDFG (City of San Diego 2001).

According to the City, naturally occurring wetland vegetation communities that are typically dominated by hydrophytic plant species are characteristic of wetland areas. However, areas that lack naturally occurring wetland vegetation communities are still considered wetlands if hydric soil or wetland hydrology is present and past human activities have occurred to remove the historic

vegetation, or catastrophic or recurring natural events preclude the establishment of wetland vegetation. Furthermore, seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages), but do not support wetland dependent vegetation, would not satisfy the City's wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities. Lastly, areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands, will be considered a wetland under the ESL and regulated accordingly (City of San Diego 2001).

CALIFORNIA GNATCATCHER PROTOCOL SURVEYS

M&A conducted three protocol presence/absence surveys for the federally listed, threatened California Gnatcatcher at the University City Transportation Corridor project site. The focused surveys were authorized under federal Endangered Species Act, Section 10(a)(1)(A) permit #797999-5 and a California Department of Fish and Game Memorandum of Understanding. The surveys followed the recommended guidelines of the USFWS Coastal California Gnatcatcher Presence/Absence Survey Protocol dated July 28, 1997. While these latter surveys can be completed at any time of year, they were conducted during the recommended period within the gnatcatcher breeding season.

LEAST BELL'S VIREO AND SOUTHWESTERN WILLOW FLYCATCHER PROTOCOL SURVEYS

M&A conducted protocol presence/absence surveys for the federally listed, endangered Least Bell's Vireo and Southwestern Willow Flycatcher at the University City Transportation Corridor Project site. Surveys took place during the breeding season for these species. The focused surveys were authorized under federal Endangered Species Act section 10(a)(1)(A) Permit #797999-5 and California Department of Fish and Game Memorandum of Understanding. The surveys followed the USFWS Least Bell's Vireo Survey Guidelines (dated August 2001) and Southwestern Willow Flycatcher Survey Protocol (dated July 2000).

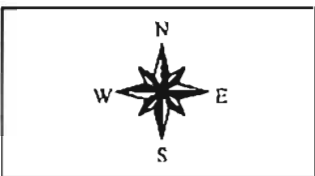
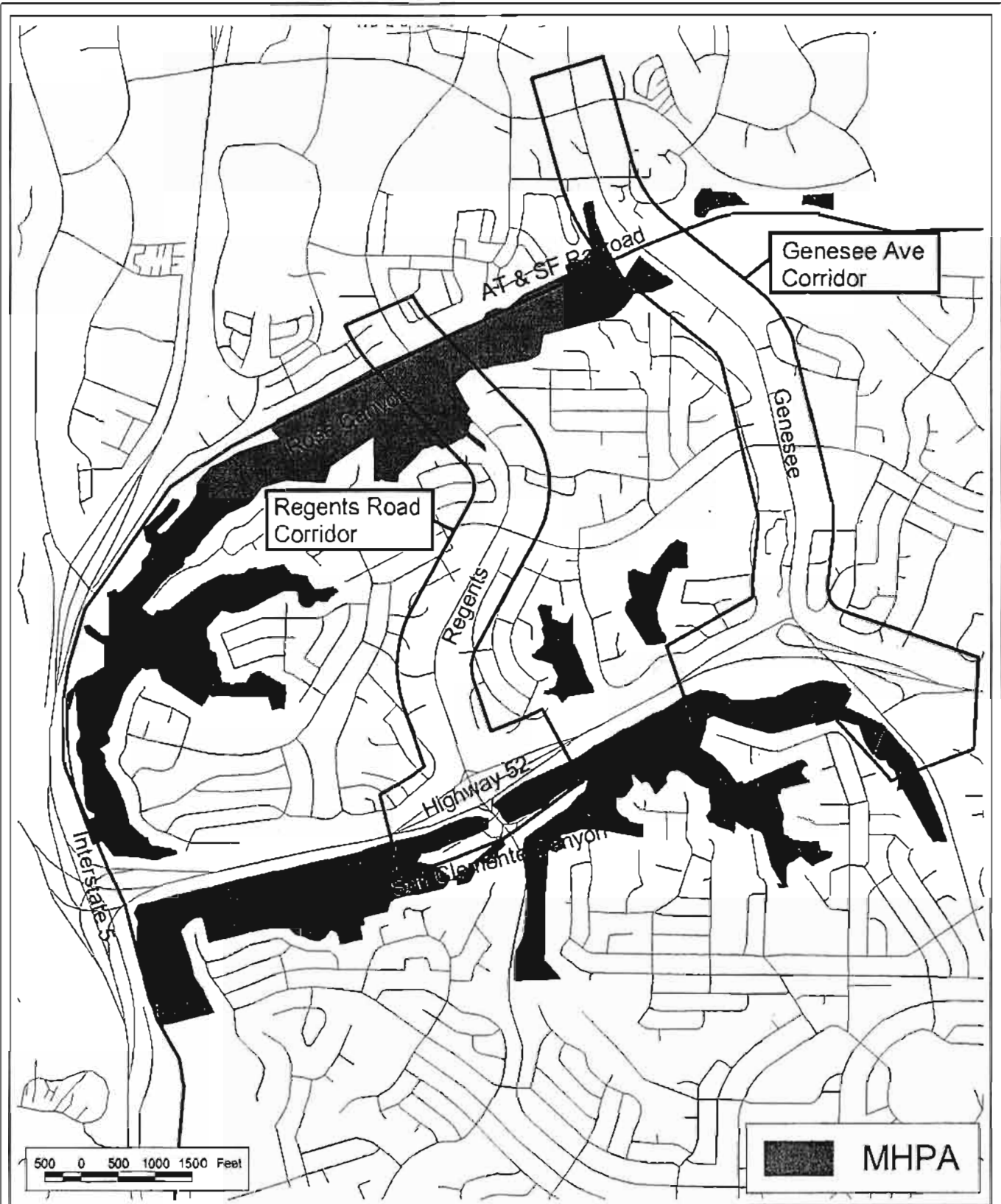
SURVEY RESULTS

PHYSICAL CHARACTERISTICS

Existing Land Use

Both the Regents Road Corridor and the Genesee Avenue Corridor traverse both San Clemente Canyon and Rose Canyon. Rose Canyon is classified by the City as the "Rose Canyon Open Space Park"; it extends from the western edge of Genesee Avenue well to the west of Regents Road (on the south side of the railroad tracks) and encompasses 411 acres. Rose Canyon is part of the Tri-Canyon open space area that is made up of the closely related Tecolote Canyon, Marian R. Bear Memorial Natural Park, and Rose Canyon Open Space Park. The survey areas for the portions of both corridors that lie in San Clemente Canyon, south of State Route 52, are in Marian R. Bear Memorial Natural Park. The remaining portions of the corridor study areas are classified as Urban Lands, and consist mainly of single family housing, apartment units, and small malls and business establishments. University City High School is in the portion of the Genesee Avenue Corridor to the east of Genesee Avenue and just south of Rose Canyon. Both study corridors are part of the MSCP Biological Core and Linkage Area and Core Resource Areas (within the specific Kearny Mesa Core Resource area). Rose Canyon and San Clemente Canyon are part of the City's MHPA (Figure 2).

There is no designated Critical Habitat for listed species within or adjacent to the study area. The study area is not within the Coastal Overlay zone, as revised pursuant to revised pursuant to Public Resources Code Section 30150, an amendment to the Coastal Act of 1976, effective January 1, 1980.



University City Transportation Corridor
City of San Diego MSCP
MHPA in Project Vicinity

Figure 2

Topography and Slope

The topography of each corridor is typical of the San Diego Canyon/Mesa complex. The low elevation of the Genesee Avenue Corridor is approximately 180 feet above Mean Sea Level (MSL), and the high elevation is approximately 340 feet MSL, near the intersection of Genesee Avenue and Governor Drive.

For the Regents Road Corridor, the low elevation is approximately 150 feet MSL in San Clemente Canyon and 180 feet MSL in Rose Canyon. The high elevation is approximately 350 feet MSL, occurring near the intersection of Regents Road and Governor Drive. Rather steep, north-facing slopes are found below the southern rim of Rose Canyon.

Geology and Soils

Underlying geology is mapped as Eocene Marine (canyons) and Pleistocene Marine and Marine Terrace Deposits (mesas) (Rogers 1965). On-site soils are mapped as Redding Urban Land Complex, 2-9 % slopes; Redding Cobbly Loam, Dissected, 15-20 % slopes; Altamont Clay, 30-50 % slopes; Gaviota Fine Sandy Loam, 30-50% slopes; Salinas Clay Loam, 2-9% slopes; Huerhuero Loam, 9-15% slopes, eroded; and Huerhuero Loam, 15-30% slopes, eroded (Bowman *et. al.* 1972).

Water Resources

Rose Creek is the central water feature of the Rose Canyon drainage. As with the main drainage in San Clemente Canyon, it is an ephemeral water feature; flow is seasonal and is dependent upon the amount of winter precipitation and urban runoff throughout the dry season. A small side drainage which runs down the south side of Rose Canyon in the vicinity of the proposed Regents Road Bridge contained water through early October 2003, and is probably wholly dependent upon urban runoff. These water resources are discussed in greater detail in the wetland sections of this report.

Adjacent Land Uses

Natural habitats and open space extend east and west of both study corridors in both Rose Canyon and San Clemente Canyon. Adjacent land uses for the remainder of the study corridors predominantly consist of residential development.

BIOLOGICAL RESOURCES

Botanical Resources-Flora

A total of 96 species of plants was found at the project site, of which 67 are native (Appendix 1). An additional 15 to 25 percent of the site's flora is expected to be comprised of annual species that could not be detected during the early summer survey dates. The number of non-native species present (29) is considered relatively high and is typical of areas situated amongst urban development. Several sensitive species were observed in the study area and are discussed further in the sensitive resources section of the report.

Vegetation Communities

Fourteen vegetation communities were identified and mapped within the study area: Southern Cottonwood-Willow Riparian Forest, Southern Willow Scrub, Coast Live Oak Woodland, Coastal and Valley Freshwater Marsh, Diegan Coastal Sage Scrub, Chamise Chaparral, Coastal Sage/Chaparral Scrub, Native Grassland, Non-native Grassland, Eucalyptus Woodland, Exotic Plantings, Urban/ Developed, Ruderal Disturbed Lands, and Native Plant Garden (Figures 3a and 3b).

It is noted here that the Rose Canyon Open Space Park has been subject to riparian habitat enhancement and restoration. In 1997, the City of San Diego applied for and received a Habitat Conservation Fund grant from the State of California Department of Parks and Recreation Local Agency Program (City of San Diego 2002b). A major goal of the grant program was to remove noxious non-native species (e.g., Giant Reed [*Arundo donax*], Pampas Grass [*Cortaderia jubata*], Eucalyptus [*Eucalyptus* spp.], Acacia [*Acacia* spp.], German Ivy [*Senecio mikanioides*], Pepper Tree [*Schinus* spp.], Fennel [*Foeniculum vulgare*], and Castor-bean [*Ricinus communis*]) from Rose Creek and replace them with native plant material (Fremont Cottonwood [*Populus fremontii* ssp. *fremontii*], Willows [*Salix* spp.], and Mule Fat [*Baccharis salicifolia*]). The restoration effort also included some upland areas, which were planted with Mission Manzanita (*Xylococcus bicolor*), California Sagebrush (*Artemisia californica*), Laurel Sumac (*Malosma laurina*) and Chamise (*Adenostoma fasciculatum*). The enhancement/restoration efforts were completed in 2002. Restoration sites are monitored by City of San Diego Park and Recreation Department personnel. Much of the restoration activity is unmapped and unmarked, and in many cases indistinguishable from native habitats. Therefore, these restoration areas are not called out separately in the following vegetation table or discussion.

The 1996 Rose Canyon Trunk Sewer project also resulted in habitat restoration in Rose Canyon Open Space Park. Examination of the biological mitigation "as-built" plans for this project show that a high percentage of the Trunk Sewer line in the vicinity of Genesee Avenue and the proposed Regents Road bridge has been subject to vegetation restoration efforts. While most of the line was treated with an upland seed mix, some sections were also re-planted with riparian forest elements. While these impacts are noted in the Impact section of this report under the appropriate vegetation categories, they are also noted separately because the resource agencies may require higher mitigation ratios for impacts to previously restored areas.

The acreages of each vegetation community are listed below in Table 2 and are separated for the Regents Road Corridor and the Genesee Avenue Corridor. Each of these vegetation communities and the associated floral species are discussed in greater detail below.



**Regents Road Corridor
Vegetation Communities & Sensitive Species**

Figure 3a



**Genesee Avenue Corridor
Vegetation Communities & Sensitive Species**

Figure 3b

Chamise Chaparral

Small areas of Common Chamise (*Adenostoma fasciculatum*) surrounded by Diegan Coastal Sage Scrub vegetation occur on a west facing slope just east of Regents Road and south of Governor Drive.

Coastal Sage/Chaparral Scrub

An ecotone of coastal sage scrub and chaparral plant species occurs on a north-facing slope just south of University City High School. The area is relatively disturbed with various pedestrian trails. Species include typical sage scrub plants such as California Sagebrush, Flat-top Buckwheat, and Black Sage as well as chaparral associates such as Common Chamise and Toyon.

Native Grassland

Small patches of native grassland were identified within the study area. In some of these areas, clay soils support typical native perennial grassland habitat consisting mostly of Purple Needlegrass (*Nassella pulchra*) mixed with some non-native grasses such as Wild Oat (*Avena barbata*) and Red Brome (*Bromus madritensis* ssp. *rubens*). Other clay associates including bulbs/corms such as Sharp-toothed Sanicle (*Sanicula arguta*), Wild Hyacinth (*Dichelostemma capitatum* ssp. *capitatum*), and Common Goldenstar (*Bloomeria crocea*) would also be expected in these areas during the spring. This habitat also includes an area of Beardless Wild Ryegrass (*Leymus triticoides*), which occurs in moist soils adjacent to Southern Cottonwood-Willow Riparian Forest habitat.

Non-native Grassland

Non-native Grassland is mapped for extensive areas in both study corridors (mainly within Rose and San Clemente Canyons) which support mostly non-native grass and forb species. Weedy grass species include Ripgut Grass (*Bromus diandrus*), Slender Wild Oat, Red Brome, and Soft Chess (*Bromus hordeceus*). Non-native forbs include Short-pod Mustard (*Hirschfeldia incana*), Horseweed (*Conyza bonariensis*), and Common Sow Thistle (*Sonchus oleraceus*). Native forbs with weedy tendencies such as Doveweed (*Eremocarpus setigerus*) and Telegraph Weed (*Heterotheca grandiflora*) are also present.

Eucalyptus Woodland

Eucalyptus Woodland is mapped for areas dominated by Eucalyptus trees (*Eucalyptus* spp.) in both study corridors, generally adjacent to urban/developed lands. These non-native species release allelopathic chemicals from their stems and leaves, which precludes most understory growth. The understory includes mostly leaf litter or in some cases exotic ground cover species such as Hottentot-fig (*Carpobrotus edulis*).

Exotic Plantings

The study area includes various landscaped slopes in both study corridors adjacent to urban development. Numerous exotic tree and shrub species, which are not pertinent to the purpose of the biological survey, can be found in these areas. These planted species include invasive species such as Acacia (*Acacia latifolia*), Peruvian Pepper (*Schinus molle*), Ngaio (*Myoporum laetum*), Hottentot-fig, and Pampas Grass (*Cortaderia jubata*).

Disturbed Habitat

Disturbed Habitat mapped for those areas, which typically have some sort of associated disturbance. These areas typically have less than 30 percent cover attributable to annual, non-native grasses. These areas consist of bare ground or non-native ruderal species such as Russian Thistle (*Salsola tragus*), Garland Chrysanthemum (*Chrysanthemum coronarium*), or Horseweed (*Conyza canadensis*).

Native Plant Garden

A native plant garden is located on the south side of Rose Creek, just west of Genesee. Several sage scrub and chaparral associated species have been planted in this area including Nuttall's Scrub Oak (*Quercus dumosa*), Wart-stemmed Ceanothus (*Ceanothus verrucosus*), Coulter's Matilija Poppy (*Romneya coulteri*), Holly-leaved Cherry (*Prunus ilicifolia* ssp. *ilicifolia*), and Bladderpod (*Isomeris arborea*).

Urban/Developed

Much of the study area in both study corridors includes residential and urban development that is devoid of native habitats. Vegetation within these developed areas includes mostly ornamental vegetation discussed above, which is of little biological value.

Zoological Resources-Fauna

Appendix 2 contains a complete list of all faunal species observed or detected on site.

Amphibians and Reptiles

No amphibians were observed or detected within the study area. However, species such as the Pacific Treefrog (*Pseudacris regilla*), Western Spadefoot (*Spea hammondi*), and Garden Slender Salamander (*Batrachoseps major*) have potential to occur on-site due to the presence of suitable habitat.

Reptile species observed within a variety of habitats include Western Fence Lizard (*Sceloporus occidentalis*), Side-blotched Lizard (*Uta stansburiana*), Common Kingsnake (*Lampropeltis getula*), and Western Rattlesnake (*Crotalus viridis*). Additionally, the Ring-necked Snake (*Diadophis punctatus*), Two-striped Garter Snake (*Thamnophis hammondi*), Night Snake (*Hypsiglena torquata*), Long-nosed Snake (*Rhinocheilus lecontei*), and Yellow-bellied Racer (*Coluber constrictor mormon*) were recorded in Rose Canyon by herpetologist Laurence Klauber (Klauber, unpub. field notes).

Other reptile species expected to found on-site include the Coronado Skink (*Eumeces skiltonianus interparietalis*), Southern Alligator Lizard (*Eligaria multicarinata webbi*), Red Diamond Rattlesnake (*Crotalus ruber*), and Striped Racer (*Masticophis lateralis*). The Orange-throated Whiptail (*Aspidoscelis hyperythra*) and the Coastal Rosy Boa (*Lichanura trivirgata roseofusca*) may also occur in the canyons in limited numbers.

Birds

A total of 48 species of birds was observed within the project study area and surrounding habitat. Generally, M&A findings were consistent with web-published "Friends of Rose Canyon Bird Species List" based on San Diego County Bird Atlas coverage of the canyon (Friends of Rose Canyon 2003). While the previous list was gathered and compiled over several years and multiple seasons, M&A results were compiled over one summer.

White-tailed Kite (*Elanus leucurus*), Red-tailed Hawk (*Buteo jamaicensis*), Red-shouldered Hawk (*Buteo lineatus*), Cooper's Hawk (*Accipiter cooperii*), Common Raven (*Corax corax*), and American Crow (*Corvus brachyrhynchos*) were observed on-site. Each of these species likely nests on-site as suitable habitat exists; however, no nests were observed. Fledgling White-tailed Kites were seen with adults at the tops of the tallest Western Sycamores. Additionally, in the spring of 2003, successful nesting by Red-shouldered Hawks resulted in three fledglings along the urbanized southern edge of Rose Canyon between Regents Road and Genesee Avenue.

Ms. Debby Knight, of the Friends of Rose Canyon, provided additional information regarding nesting birds and other avian species observed within Rose Canyon. A family of Barn Owls (*Tyto alba*) have been reported from the southern edge of Rose Canyon, inhabiting a palm tree (D. Knight pers. comm.). A nesting Great Horned Owl (*Bubo virginianus*) has also been reported from the southern rim of Rose Canyon. According to reports received in April 2004, the nest was occupied by two Great Horned Owl chicks (D. Knight pers. comm.).

Other species observed in the riparian habitat during the M&A surveys included, but were not limited to, Downy Woodpecker (*Picoides pubescens*), Acorn Woodpecker (*Melanerpes formicivorus*), Ash-throated Flycatcher (*Myiarchus cinerascens*), Yellow Warbler (*Dendroica petechia*), Black-headed Grosbeak (*Pheucticus melanocephalus*), Hooded Oriole (*Icterus cucullatus*), Bewick's Wren (*Thryomanes bewickii*), Wrentit (*Chamaea fasciata*), Common Yellowthroat (*Geothlypis trichas*), Song Sparrow (*Melospiza melodia*), and House Wren (*Troglodytes aedon*). The Southern Cottonwood-Willow Riparian Forest and Southern Willow Scrub habitats on-site offer potentially suitable habitat to both the Least Bell's Vireo and Southwestern Willow Flycatcher, which are federally listed endangered species. However, focused, protocol surveys conducted by M&A did not conclude either species' presence on-site. More details regarding these survey results are discussed in the *Sensitive Species* section of this report.

M&A biologists also recorded the following species in sage scrub habitat: Wrentit, Bewick's Wren, California Towhee (*Pipilo crissalis*), Spotted Towhee (*Pipilo maculatus*), California Thrasher (*Toxostoma redivivum*), and California Gnatcatcher (more details regarding the presence of this species on-site are included in *Sensitive Species* section).

The Eucalyptus Woodland that exists off-site, but in the vicinity of the study area, is relatively expansive. This habitat is broadly utilized by larger birds for nesting (*e.g.*, corvids and raptors), and by smaller species for perching (*e.g.*, flycatchers). However, the Eucalyptus Woodland on-site is relatively small and patchy; thus, uses by avian species are expected to be limited to perching and occasional foraging.

Mammals

Relatively few mammalian species were observed on-site. This is, in part, due to the fact that most native mammal species are primarily nocturnal and not easily observed during diurnal surveys. The

California Ground Squirrel (*Spermophilus beecheyi*) and Desert Cottontail (*Sylvilagus audubonii*) were both infrequently seen on-site, although both are considered common to the area. Exposed soil occurs in many disturbed areas and is conducive to the presence of Botta's Pocket Gopher (*Thomomys bottae*), which is expected to be found on-site. Mid-level predators such as Opossum (*Didelphis virginiana*), Long-tailed Weasel (*Mustela frenata*), Raccoon (*Procyon lotor*), Gray Fox (*Urocyon cinereoargenteus*), and Striped Skunk (*Mephitis mephitis*) were either observed or expected to occur. However, their populations are expected to be moderated by higher-level predators such as Coyote (*Canis latrans*) and Bobcat (*Felis rufus*), both of which, were detected on-site during the M&A surveys. These latter two species have been directly observed and photographed by local residents, and the latest Bobcat sighting was reported from November 30, 2003 (D. Knight pers. comm.). The presence of higher-level predators such as Bobcat verifies the ecological efficiency of the canyon in providing habitat for all species throughout the food chain (Crooks and Soulé 1999).

Several rodent species are also expected to occur within the project study area, including: San Diego Pocket Mouse (*Chaetodipus fallax fallax*), Deer Mouse (*Peromyscus maniculatus*), Cactus Mouse (*Peromyscus eremicus*), California Vole (*Microtus californicus*), and House Mouse (*Mus musculus*). Although not observed, various bat species (Order *Chiroptera*) are expected to use the canyon habitats within the study area. Such species include California Leaf-nosed Bat (*Macrotis californicus*), Mexican Long-tongued Bat (*Choeronycteris mexicana*), Western Mastiff Bat (*Eumops perotis*), Hoary Bat (*Lasiurus cinereus*), and Yuma Myotis (*Myotis yumanensis*).

Urban proximity dictates the occasional presence of domestic species of dog and cat (*Canis familiaris* and *Felis catus*, respectively). On several occasions dogs were seen on and off-leash in the canyon. Dogs do not carry out levels of predation that cats do since they are largely retained under the control of their owners and not given to independent nocturnal foraging. Cats are considered mid-level predators, and by virtue of their independent and nocturnal habits form a viable threat to birds and small mammals. As mentioned, the presence of higher-level predators serves to moderate this threat.

WETLANDS AND JURISDICTIONAL NON-WETLAND RESOURCES

ACOE, CDFG, and City jurisdictional wetlands and waterways delineated for the study area are shown in Figures 4a, 4b, and 4c and are summarized in Table 3. As previously mentioned, the delineation was limited to the areas of potential, jurisdictional habitat within the proposed impact area (considering each project alternative). The following jurisdictional habitats were delineated: Southern Cottonwood-Willow Riparian Forest, Southern Willow Scrub, Mule Fat Scrub, Coastal and Valley Freshwater Marsh, Native Grassland (Wet Meadow), and Non-wetland Waters of the U.S./Streambed. The following text discusses these jurisdictional habitats with regard to hydrophytic vegetation, hydric soils, and wetland hydrology. The results for each study corridor (Regents Road Corridor and Genesee Avenue Corridor) are discussed separately. Appendix 3 contains the wetland data forms and photo points.

Regents Road Corridor (Rose Canyon)

Southern Willow Scrub

Southern Willow Scrub habitat occurs along incised channels situated along the northern and southern slopes of Rose Canyon. The canopy of this vegetation is dominated by Arroyo Willow, which is a FACW species. The understory includes wetland associated species such as Western

Ragweed (*Ambrosia psilostachya*), Mugwort (*Artemisia douglasiana*), and San Diego Sagewort, as well as some non-indicator species including Poison Oak and Ripgut Grass. Greater than 50% of the dominant plants are wetland plants, thus meeting the wetland vegetation criteria. Soil tests in the Southern Willow Scrub habitat revealed soils with a low-chroma matrix color, which is an indicator

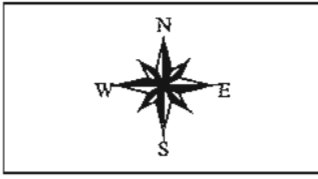
Table 3. Acreage Summary of Jurisdictional Habitats

JURISDICTION	Regents Road Corridor								
	Rose Canyon						San Clemente Canyon		
	Southern Willow Scrub	Southern Cottonwood-Willow Riparian Forest	Coastal and Valley Fresh water Marsh	Mule Fat Scrub	Native Grassland	Non-wetland Waters of the U.S./ Streambeds	Southern Cottonwood-Willow Riparian Forest	Coastal Valley & Fresh water March	Non-wetland Waters of the U.S./ Streambeds
ACOE	0.37	2.04	0.01	--	--	0.10	0.00	0.014	0.02
CDFG	1.20	2.04	0.01	0.01	0.30	0.10	0.06	0.014	0.02
City	1.24	2.04	0.01	0.01	0.30	0.10	0.06	0.014	0.02
TOTAL*	1.24	2.04	0.01	0.01	0.30	0.10	0.063	0.014	0.02

* Jurisdictional acreage overlap, thus totals were adjusted to account for overlap.

JURISDICTION	Genesee Avenue Corridor			
	Rose Canyon	San Clemente Canyon		
	Southern Cottonwood-Willow Riparian Forest	Southern Cottonwood-Willow Riparian Forest	Mule Fat Scrub	Non-wetland Waters of the U.S./ Streambeds
ACOE	0.13	0.5	0.004	0.03
CDFG	0.23	0.55	0.004	0.03
City	0.23	0.55	0.004	0.03
TOTAL*	0.23	0.55	0.004	0.03

* Jurisdictional acreage overlap, thus totals were adjusted to account for overlap.



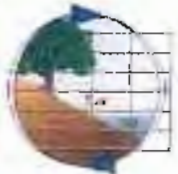
**ACOE, CDFG, and City of San Diego
Jurisdictional Wetlands and Waterways
Regents Road Corridor**

Figure 4a



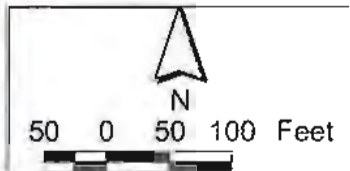
**ACOE, CDFG, and City of San Diego
Jurisdictional Wetlands and Waterways
Genesee Avenue Corridor (Rose Canyon)**

Figure 4b



**ACOE, CDFG, and City of San Diego
Jurisdictional Wetlands and Waterways**
Genesee Avenue Corridor (San Clemente Canyon)

Figure 4c



**ACOE, CDFG and City of San Diego Jurisdictional
Wetlands and Waterways
Regents Road/SR 52 (San Clemente Canyon)**

**Figure
4d**

of hydric conditions. The soil was also moist during the time of the survey, and the area displayed drainage patterns.

The breadth of ACOE jurisdiction over the Southern Willow Scrub is limited to the vegetation within the drainage. The remaining Southern Willow Scrub habitat that occurs just outside but adjacent to the drainage falls under the jurisdiction of the CDFG as adjacent riparian habitat. It also falls under the City's jurisdiction, since the habitat is dominated by hydrophytic vegetation. Two other isolated stands of Southern Willow Scrub are located in the canyon, but not along or adjacent to a streambed. Therefore, these stands are not jurisdictional under either the ACOE or CDFG. These areas are, however, under the City's jurisdiction since they support a dominance of hydrophytic vegetation.

Southern Cottonwood-Willow Riparian Forest

Well-developed Southern Cottonwood-Willow Riparian Forest occurs within the main east-west running drainage on the canyon floor of Rose Canyon. This vegetation community is dominated by Western Sycamore and Arroyo Willows, which are both FACW species. Other species included in this habitat are Fremont Cottonwood and Goodding's Black Willow. Understory species include Western Ragweed, Bermuda Grass (*Cyanodon dactylon*), and Cocklebur (*Xanthium strumarium*). Drainage patterns indicated wetland hydrology and hydric soils were indicated by the presence of low-chroma soils and mottles. These areas are jurisdictional under ACOE, CDFG, and the City.

Coastal and Valley Freshwater Marsh

Several small and narrowly configured stands of Coastal and Valley Freshwater Marsh were found on or at the base of the northern and southern slopes of Rose Canyon within incised channels. These areas are situated outside of the willow canopy and provide linkages between the stands of Southern Willow Scrub. This habitat is dominated by Broad-leaved Cattail (*Typha latifolia*), an OBL wetland species. Drainage patterns indicated wetland hydrology, and hydric soils were indicated by the presence of free water in the test pit. Another small stand of Freshwater Marsh was found just east of Regents Road, and south of the bridge over the park access road. These areas are jurisdictional under ACOE, CDFG and the City.

Native Grassland (Wet Meadow)

An area of Native Grassland (Wet Meadow) vegetation is located in a low-lying area situated between a hillside and a berm formed by the dirt access road. The vegetation is dominated by Beardless Wild Ryegrass, a FACW species. Other species present include Curly Dock (*Rumex crispus*) and Softchess (*Bromus hordeaceus*). No indicators of wetland hydrology or hydric soils were found. This area falls only under City's jurisdiction since it supports a dominance of hydrophytic vegetation.

Mule Fat Scrub

One small area of Mule Fat Scrub is found along an eastern incised channel of Rose Canyon. This vegetation type is dominated by Mule Fat, a FACW species. The understory consists of Western Ragweed, and non-native grasses such as Slender Wild Oat. This area lacks hydric soil and hydrology indicators; however, it occurs immediately above a channel and is, therefore, under CDFG jurisdiction as adjacent riparian habitat. This area also falls under the City's jurisdiction, since it supports a dominance of hydrophytic vegetation.

Non-Wetland waters of the U.S./Streambed

Several jurisdictional, ephemeral, drainage channels, devoid of hydrophytic vegetation, are found within the corridor. Most of these drainages are located in low areas between hillsides and feed into the more prominent waterways on-site. Others consist of non-vegetated segments of a drainage situated between stands of willow habitat. These drainages are jurisdictional under the ACOE as Non-Wetland Waters of the U.S. and CDFG as Streambeds.

Regents Road Corridor (San Clemente Canyon/SR 52))

Southern Cottonwood-Willow Riparian Forest

The Southern Cottonwood-Willow Riparian Forest vegetation found within the San Clemente Canyon study area in the vicinity of the Regents Road bridge crossing is similar to other stands of Southern Cottonwood-Willow Riparian Forest found throughout the project site. This vegetation type is dominated by Western Sycamore and Arroyo Willow, both FACW species. Other species noted in this assemblage are Fremont Cottonwood and Goodding's Black Willow. Understory species in this area include Poison Oak and Hottentot-Fig (*Carpobrotus edulis*) both non-indicator species. Drainage patterns indicated wetland hydrology, and hydric soils were indicated by the presence of low-chroma soils and mottles. The breadth of ACOE jurisdiction over the Southern Willow Scrub is limited to the vegetation within the drainage. The remaining Southern Willow Scrub habitat that occurs just outside but adjacent to the drainage falls under the jurisdiction of the CDFG as adjacent riparian habitat. It also falls under the City's jurisdiction, since the habitat is dominated by hydrophytic vegetation.

Coastal and Valley Freshwater Marsh

A small stand of Coastal and Valley Freshwater Marsh was found on the eastern side of Regents Road, a short distance to the south of the main channel. This area is situated outside of the willow canopy and at the headwall discharge point of an approximate 5-foot culvert which links underground with a concrete drainage on the east side of Regents Road as it comes down the canyon from the south. This habitat is dominated by Broad-leaved Cattail (*Typha latifolia*), an OBL wetland species. Drainage patterns indicated wetland hydrology, and hydric soils were indicated by the presence of free water in the test pit. This area is jurisdictional under ACOE, CDFG and the City.

Non-Wetland waters of the U.S./Streambed

A jurisdictional, ephemeral, drainage channel, devoid of hydrophytic vegetation, is found under the bridge as well as both upstream and downstream of the bridge. This drainage is jurisdictional under the ACOE as Non-Wetland Waters of the U.S. and CDFG and the City as Streambed.

Genesee Avenue Corridor (Rose Canyon)

Southern Cottonwood-Willow Riparian Forest

The Southern Cottonwood-Willow Riparian Forest, found within the Rose Canyon portion of the Genesee Avenue Corridor, is characterized by a dominance of Western Sycamore and Arroyo Willow, both FACW species. Other species included in this assemblage are Fremont Cottonwood and Goodding's Black Willow, FACW and OBL species, respectively. Understory species include

Western Ragweed, Mugwort, and Mule Fat. Drainage patterns indicated wetland hydrology, and hydric soils were indicated by the presence of low-chroma soils and mottles.

A small stand of Southern Cottonwood-Willow Riparian Forest habitat occurs outside of, but adjacent to a drainage. Thus, this stand is jurisdictional only under CDFG (as adjacent riparian habitat) and the City.

Genesee Avenue Corridor (San Clemente Canyon)

Southern Cottonwood-Willow Riparian Forest

The Southern Cottonwood-Willow Riparian Forest vegetation found within the San Clemente Canyon study area is similar to other stands of Southern Cottonwood-Willow Riparian Forest found throughout the project site. This vegetation type is dominated by Western Sycamore and Arroyo Willow, both FACW species. Other species noted in this assemblage are Fremont Cottonwood and Goodding's Black Willow. Understory species include Poison Oak, a non-indicator species, and Tall Flat Sedge (*Cyperus eragrostis*) a FACW species. Drainage patterns indicated wetland hydrology, and hydric soils were indicated by the presence of low-chroma soils and mottles.

Two small segments of Southern Cottonwood-Willow Riparian Forest habitat occur outside of, but adjacent to the main drainages within the study area. These segments are jurisdictional only under CDFG (as adjacent riparian habitat) and the City.

Mule Fat Scrub

One small area of narrowly configured Mule Fat Scrub is found along an unvegetated cobblestone drainage channel. This vegetation type is dominated by Mule Fat. The understory consists of Coyote Bush (*Baccharis pilularis*), and non-native grasses such as Slender Wild Oat, both non-wetland indicator plants. This area lacks hydric soil and hydrology indicators; however, it occurs adjacent to the main drainage channel and is jurisdictional as under CDFG adjacent riparian habitat. This area also falls under the City's jurisdiction since it supports a dominance of hydrophytic vegetation.

Wetlands Functions and Values

The jurisdictional wetlands and waterways on site represent relatively high quality habitats. The on-site wetlands mostly consist of dense and continuous Southern Willow Scrub and Southern Cottonwood-Willow Riparian Forest. These habitats provide a multi-layer canopy, which support many common riparian birds such as Song Sparrow (*Melospiza melodia*), Lesser Goldfinch (*Carduelis psaltria*), Yellow-rumped Warbler (*Dendroica coronata*), and Common Yellowthroat (*Geothlypis trichas*). The habitat also provides potentially suitable habitat for several sensitive species including Least Bell's Vireo, Southwestern Willow Flycatcher, Yellow Warbler (*Dendroica petechia*), and Yellow-breasted Chat (*Icteria virens*). Additionally, some smaller ponding areas and the abundance of leaf litter beneath the larger stands of willows may provide breeding habitat for various amphibian species including Pacific Chorus Frog (*Pseudacris regilla*) and Western Toad (*Bufo boreas*). The tall heights of the Western Sycamores and Goodding's Black Willows are indicative of a mature, well-developed riparian system.

Overall, the on-site wetlands and waterways have moderately high physical and chemical functions. This is mainly attributed to the areas that run beneath the Southern Cottonwood-Willow, Riparian Forest. The herbaceous vegetation in the understory and the widening of the drainage in some areas allows for groundwater recharge, sediment retention, toxicant retention, and nutrient transformation. The sediment and toxicant retention of these areas improves the conditions of the areas downstream by reducing sediment loading. Most of the upstream portions consist of narrower drainages that lack herbaceous vegetation within the channel. Waters in these drainages tend to flow quicker, yielding significantly less groundwater recharge, sediment retention, and nutrient transformation. Thus, these areas have lower physical and chemical functions.

SENSITIVE SPECIES

Sensitive species include those listed by USFWS (2003), CDFG (2003a and b), and the California Native Plant Society (CNPS) (CNPS 2001). They also include species covered by the MSCP and those considered narrow endemic species (City of San Diego 1997).

Sensitive Flora

A total of 6 sensitive plant species was identified within the project site and each is discussed in Table 4. They include San Diego Sagewort, Clay-field Goldenbush (*Isocoma menziesii* var. *decumbens*), Spiny Rush, Nuttall's Scrub Oak (*Quercus dumosa*), Coulter's Matilija Poppy (*Romneya coulteri*), and Wart-stemmed Ceanothus (*Ceanothus verrucosus*). The latter three species were planted and found only in the Native Plant Garden located south of Rose Creek and west of Genesee. Hence, these species were not mapped. The locations of the San Diego Sagewort, Clay-field Goldenbush, and Spiny Rush are shown on Figures 3a and 3b.

Table 5 lists sensitive plant species that are known from the region, but were not observed on-site. Reasons for absence are included in the table.

Table 2. Acreage Summary of Vegetation Communities

Vegetation Community	Regents Rd. Corridor (acres)	Genesee Ave. Corridor (acres)	Total (acres)
Southern Cottonwood Willow Riparian Forest (Holland Code 61330)	12.46	17.77	30.23
Southern Willow Scrub (Holland Code 63320)	1.41	2.98	4.39
Coast Live Oak Woodland (Holland Code 71160)	1.28	15.59	16.87
Coastal and Valley Freshwater Marsh (Holland Code 52410)	...0.01	0.01	0.02
Diegan Coastal Sage Scrub (Holland Code 32500)	30.07	16.83	46.90
Chamise Chaparral (Holland Code 37200)	0.19	0.22	0.41
Coastal Sage/Chaparral Scrub (Holland Code 37G00)	0.00	0.54	0.54
Native Grassland (Holland/Oberbauer Code 42100)	0.31	0.04	0.35
Non-native Grassland (Holland Code 42200)	19.89	25.42	45.31
Eucalyptus Woodland (Holland/Oberbauer Code 11100)	3.30	9.46	12.76
Exotic Plantings (Holland/Oberbauer Code 11000)	32.49	44.37	76.86
Urban Developed (Holland/Oberbauer Code 12000)	121.55	191.86	313.41
Disturbed Habitat (Holland/Oberbauer Code 11300)	4.70	0.66	5.36
Native Plant Garden	0.00	0.76	0.76
Total	227.66	326.51	559.17

Southern Cottonwood-Willow Riparian Forest

This broad-leaved riparian vegetation type is well developed in both San Clemente and Rose Canyon. Dominant canopy species include Western Sycamore (*Platanus racemosa*), Arroyo Willow (*Salix lasiolepis*), and Lance-leaf Willow (*Salix lucida* ssp. *lasiandra*). Other tall canopy trees include Goodding's Black Willow (*Salix gooddingii*) and Fremont Cottonwood (*Populus fremontii* ssp. *fremontii*). Coast Live Oak (*Quercus agrifolia*) occurs sporadically along the upper embankments of the creeks. It should be noted that although Western Sycamore and Coast Live Oak are not typical components of Southern Cottonwood-Willow Riparian Forest, no other Holland/Oberbauer category better suits the on-site conditions. A high diversity of understory shrubs and herbaceous species are also present. These include Mule Fat (*Baccharis salicifolia*), Poison Oak (*Toxicodendron diversilobum*), California Rose (*Rosa californica*), San Diego Sagewort (*Artemisia palmeri*), and Spiny Rush (*Juncus acutus* ssp. *leopoldii*). The San Diego Sagewort and the Spiny Rush are sensitive species.

Southern Willow Scrub

This habitat occurs within tributary drainages to both San Clemente and Rose Canyon and typically lacks taller trees such as Western Sycamore and Fremont Cottonwood found in Southern Cottonwood-Willow Riparian Forest. This habitat is dominated by Arroyo Willow, which typically varies from 15 to 25 feet in height. Secondary canopy species include taller trees such as Goodding's Black Willow and Lance-leaf Willow. Understory species include Narrow-leaved Willow (*Salix exigua*), Mule Fat, Poison Oak, Great Marsh Evening Primrose (*Oenothera elata* ssp. *hirsutissima*), and Tall Flatsedge (*Cyperus eragrostis*).

Coast Live Oak Woodland

Large stands of Coast Live Oak Woodland occur on the relatively mesic north-facing slopes of San Clemente Canyon. A dense canopy of mature Coast Live Oak trees occurs in this area. The understory consists mostly of leaf litter. Coast Live Oaks have cupped leaves with spine-tipped margins, which secure the leaves to the ground and provide the trees with a natural mulch. This mulch keeps the tree's roots cool and moist, as well as precludes competition from other potentially invasive species. As a result, understory plants are naturally limited but include several shade-adapted species such as Fuchsia-flowered Gooseberry (*Ribes speciosum*), Meadow Rue (*Thalictrum fendleri* var. *polycarpum*), and California Rose.

Coastal and Valley Freshwater Marsh

Several small and narrowly configured stands of Coastal and Valley Freshwater Marsh were found on or at the base of the northern and southern slopes of Rose Canyon within incised channels. These areas are situated outside of the willow canopy and provide linkages between the stands of Southern Willow Scrub. Another small stand was found in San Clemente Canyon in the vicinity of the Regents Road bridge crossing the Marian Bear Park access road. This habitat is dominated by Broad-leaved Cattail (*Typha latifolia*),

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub is comprised of mostly drought deciduous subshrubs, which range from 2 to 4 feet in height. Various forms of this habitat occur on-site. Most commonly represented is a type that is dominated by Poison Oak. This type is typical of steep north and east-facing slopes occurring immediately below urban landscaping, where moist soil conditions support thick stands of Poison Oak. Other species include California Sagebrush (*Artemisia californica*), San Diego Monkeyflower (*Mimulus aurantiacus*), as well as taller shrubs such as Lemonadeberry (*Rhus integrifolia*), Toyon (*Heteromeles arbutifolia*), and Blue Elderberry (*Sambucus mexicana*).

On drier south and west facing slopes, this habitat is more characteristic of typical Coastal Sage Scrub. Dominant species include California Sagebrush, Flat-top Buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), White Sage (*Salvia apiana*), and Laurel Sumac (*Malosma laurina*).

Table 4. Sensitive Plant Species Found On-site.

Scientific Name	Common Name	Habitat*	Federal Status	State Status	CNPS	MSCP Status	Site Status
<i>Artemisia palmeri</i>	San Diego Sagewort	Cottonwood-willow Riparian Forest	None	None	List 4	None	Dense populations occur along Rose Creek at both the Genesee and Regenis Road crossing areas.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	Clay-field Goldenbush	Coastal Sage Scrub, Native and Non-Native Grassland	None	None	List 1B	None	This plant is sporadic in areas of Non-native and Native Grassland habitats.
<i>Quercus dumosa</i>	Nuttall's Scrub Oak	Native Plant Garden	None	None	List 1B	None	Planted in native plant garden just south of Rose Creek and west of Genesee.
<i>Romneya coulteri</i>	Coulter's Matilija Poppy	Native Plant Garden	None	None	List 4	None	Planted in native plant garden just south of Rose Creek and west of Genesee.
<i>Ceanothus verrucosus</i>	Wart-stemmed Ceanothus	Native Plant Garden	None	None	List 2	Covered	Planted in native plant garden just south of Rose Creek and west of Genesee.
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Spiny Rush	Cottonwood-willow Riparian Forest	None	None	List 4	None	Occurs sporadically within wetland habitats of Rose Canyon and San Clemente Canyons

Table 5. Sensitive Floral Species Not Observed but Potentially Present.

Scientific Name	Common Name	Habitat	Federal Status	State Status	CDFG Status	CNPS Status	MSCP Status	Probability of Occurrence/Reason for Absence
<i>Adolphia californica</i>	California Adolphia	Chaparral, coastal scrub, valley and foothill grassland/clay; elevation 45-300 meters. Shrub (deciduous), blooms December-May	None	None	SP	List: 2	None	Low probability of occurrence. Although suitable habitat is present, this perennial shrub is relatively conspicuous. If it were to occur on-site, it would have been observed.
<i>Arctostaphylos glandulosa</i> ssp. <i>Crassifolia</i>	Del Mar Manzanita	Chaparral (maritime, sandy); elevation 0-365 meters. Scrub (evergreen), blooms Dec-April	FE	None	SP	List: 1B	Covered	Low probability of occurrence, lack of chaparral habitat present in study area.
<i>Atriplex pacifica</i>	South Coast Saltscall	Coastal bluff scrub, coastal scrub playas; elevation 0-100 meters. Annual herb, blooms March-October	None	None	SP	List: 1B	None	Low probability of occurrence in openings of coastal sage scrub vegetation.
<i>Brodiaea orcuttii</i>	Orcutt's Brodiaea	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools/mesic, clay, sometimes serpinitic; elevation 30-1615 meters. Perennial herb (bulbiferous), blooms May-July	None	None	SP	List: 1B	Covered	Low probability of occurrence in suitably mesic areas.
<i>Calandrinia maritima</i>	Seaside Calandrinia	Coastal bluff scrub, coastal scrub, valley and foothill grassland/sandy; elevation 5-300 meters. Annual herb, blooms February-August	None	None	SP	List: 4	None	Low probability of occurrence in openings of coastal sage scrub.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Long-spined Spineflower	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland/often clay; elevation 30-1450 meters. Annual herb, blooms April-July	None	None	SP	List: 1B	None	Low potential in openings of coastal sage scrub on level terrain.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer Holly	Chaparral; elevation 30-550 meters. Shrub (evergreen), blooms April-June	None	None	SP	List: 1B	None	Low probability of occurrence. Lack of suitable, adequate chaparral habitat within the study area.
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Sand Aster	Chaparral, coastal bluff scrub, coastal scrub; elevation 5-150 meters. Perennial herb, blooms June-September	None	None	SP	List: 1B	Covered	Low probability of occurrence in sandy substrates.
<i>Dichondra occidentalis</i>	Western Dichondra	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland; elevation 50-500 meters. Perennial herb (rhizomatous), blooms March-July	None	None	SP	List: 4	None	Moderate probability of occurrence in understory of coastal sage scrub.
<i>Ferocactus viridescens</i>	San Diego Barrel Cactus	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; elevation 3-450 meters. Shrub (stem succulent), blooms May-June	None	None	SP	List: 2	Covered	Moderate probability. Expected in vicinity of study area.
<i>Harpagonella palmeri</i>	Palmer's Grapplinghook	Chaparral, coastal scrub, valley and foothill grassland/clay; elevation 20-830 meters. Annual herb, blooms March-May	None	None	SP	List: 4	None	Moderate probability in grassland habitat with clay soils.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	Small Flower Microseris	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/clay; elevation 15-1070 meters. Annual herb, blooms March-May	None	None	SP	List: 4	None	Low potential in mesic openings in coastal sage scrub with a clay substrate.

Scientific Name	Common Name	Habitat	Federal Status	State Status	CDFG Status	CNPS Status	MSCP Status	Probability of Occurrence/Reason for Absence
<i>Monardella linoidea</i> ssp. <i>Viminea</i> *	Willow Monardella	Closed-cone coniferous forest, chaparral, coastal scrub, riparian scrub, riparian woodland; elevation 50-400 meters. Perennial herb, blooms June-August	FE	SE	SP	List: 1B	Covered	Low probability of occurrence. Although it is known from San Clemente Canyon, this perennial shrub is relatively conspicuous. If it were to occur on-site, it would have been observed.
<i>Muilla clevelandii</i>	San Diego Goldenstar	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/clay; elevation 50-465 meters. Perennial herb (bulbiferous), blooms May	None	None	SP	List: 1B	Covered	Low potential on slopes in coastal sage scrub vegetation.
<i>Ophioglossum californicum</i>	California Adder's-tongue	Chaparral, valley and foothill grassland, vernal pools (margins)/mesic; elevation 60-300 meters. Perennial herb (rhizomatous), fertile December-May	None	None	SP	List: 4	None	Low probability of occurrence. Lack of adequate chaparral habitat or mesic openings in coastal sage scrub vegetation.
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	Short-lobed Broomrape	Coastal bluff scrub, coastal dunes, coastal scrub/sandy; elevation 3-305 meters. Perennial herb (parasitic), blooms April-October	FSC	None	SP	List: 4	None	Low potential of occurrence in sandy terrain.

FSC = Federal Species of Concern, FE = Federal (ESA) Endangered, SP = Special Plant

*Historic populations of willow monardella are known from San Clemente Canyon. The nearest historic locations are approximately one-half mile to the west, and just east of Genesee Avenue south of SR 52, but well out of the impact area of proposed improvements to Genesee Avenue. The latter population was searched for as part of the field survey for this study, but was not found. Similarly, the general botanical survey conducted within the boundaries of the study area did not reveal the presence of this species.

Sensitive Fauna

A total of 7 sensitive wildlife species was identified within the project site during M&A surveys. They include White-tailed Kite, Cooper's Hawk, Nuttall's Woodpecker (*Picoides nuttallii*), California Gnatcatcher, California Thrasher, Yellow Warbler, and Yellow-breasted Chat. Details regarding these observed/detected sensitive species are summarized in Table 6.

Several raptors were observed or reported (courtesy of D. Knight) from the study area, and many are suspected or known to nest on-site. Such species include Red-shouldered Hawk, Red-tailed Hawk, Barn Owl, and Great Horned Owl. Although none of the aforementioned species are considered sensitive, any active raptor nests are afforded protection under the California Fish and Game Code Section 3503.5 (CDFG 2000). Additionally, although it was not concluded that all the sensitive species observed/detected on-site are nesting in the area, there is a high likelihood that they do given the available, suitable habitat.

Focused, protocol surveys were conducted for three federally listed avian species: Southwestern Willow Flycatcher, Least Bell's Vireo, and California Gnatcatcher. The results of these surveys are included in Appendices 4 and 5. Neither Southwestern Willow Flycatcher nor Least Bell's Vireo was detected in or near the project study area. However, two male/female pairs of California Gnatcatchers were found within the proposed Regents Road corridor project area in Rose Canyon. Although nesting was not confirmed, it is strongly suspected that at least one pair breeds on-site or in the vicinity, as juvenile birds were seen with one pair during early surveys.

Other sensitive species not observed during the M&A survey work have been reported from the study area by local residents or other interested parties. Such species include, but are not limited to Rufous-crowned Sparrow (*Aimophila ruficeps*), Black-chinned Sparrow (*Spizella atrogularis*), and Northern Harrier (*Circus cyaneus*). The details regarding these species and other species not observed on-site but known from the region are summarized in Table 7.

Although Southwestern Pond Turtle (*Emys marmorata pallida*) and Arroyo Toad (*Bufo californicus*) are known from the region in habitats such as those that occur on-site, neither species was observed/detected during the M&A surveys nor have they been historically reported from the area. They are not expected to occur due to the absence of specific habitat conditions that are required by these species. The area lacks substantial, permanent ponding areas and sandy washes along stream courses that are necessary to support the pond turtle and Arroyo Toad, respectively.

The Burrowing Owl (*Athene cunicularia*) is a species that generally occurs in Disturbed Habitat and/or grasslands. This species occupies ground squirrel burrows, which are present on-site. The Burrowing Owl was not observed/detected during the recent surveys, nor has it been historically reported from the area. The grasslands and Disturbed Habitat on-site lack the specific habitat conditions that preferred by this species, such as open, flat terrain. Furthermore, the site's location amongst urban development may also preclude the presence of this species. This species is not expected to be found on-site.

No vernal pools were found within the project area. The area lacks appropriate conditions for vernal pools; thus, no sensitive species associated with vernal pools (i.e., San Diego Fairy Shrimp [*Branchinecta sandiegonensis*]) are expected to occur on-site.

Table 6. Sensitive Faunal Species Found On-site.

Name	Habitat	Federal Status	State Status	CDFG Status	MSCP Status	On-site Status
White-tailed Kite (<i>Elanus leucurus</i>)	Grasslands, agricultural fields, and open habitats with areas of dense deciduous trees for nesting	FSC	None	Protected	None	Adults and fledglings observed in canopy of Western Sycamores. No nests were observed, but this species likely nests on-site.
Cooper's Hawk (<i>Accipiter cooperii</i>)	Oak, riparian deciduous or other woodland habitats usually near water	None	None	CSC	Covered	Observed on-site. May use Southern Cottonwood Willow Riparian Forest habitat for nesting.
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	Oak woodlands and canyons with Sycamores, Alders, Cottonwoods, and bay trees growing along streams lined with Coast Live Oaks. Snags and dead limbs required for nest excavation.	FSC	None	SA	None	Detected in Southern Cottonwood Willow Riparian Forest and Southern Willow Scrub on-site.
California Gnatcatcher (<i>Poliophtila californica</i>)	Various succession of sage scrub	FT	None	CSC	Covered	Observed using small patches of Diegan Coastal Sage Scrub in Rose Canyon, near the proposed Regents Road Bridge.
California Thrasher (<i>Toxostoma redivivum</i>)	Chaparral. Will breed in adjacent oak woodlands and pine-juniper scrub as well as parks and gardens, if dense cover is available.	FSC	None	SA	None	Detected in Diegan Coastal Sage Scrub habitat. Expected to nest on-site.
Yellow Warbler (<i>Dendroica petechia</i>)	Riparian woodlands, especially of willows	None	None	CSC	None	Observed on-site in Southern Cottonwood Willow Riparian Forest. Most likely to nest on-site.
Yellow-breasted Chat (<i>Icteria virens</i>)	Riparian woodland/scrub with dense undergrowth	None	None	CSC	None	Detected on-site in Southern Willow Scrub. Expected to utilize understory of willows for foraging.

FE = Federal (ESA) Endangered, FT = Federal Threatened, FSC = Federal Species of Concern, SA = California (CESA) Special Animal, SE = California Endangered, ST = California Threatened, CSC = California Species of Special Concern, Covered = MSCP Covered Species.

Table 7. Species Faunal Species Not Observed but Potentially Present.

Name	Habitat	Federal Status	State Status	CDFG Status	MSCP Status	Probability of Occurrence
Quino Checkerspot (<i>Euphydryas editha quino</i>)	Open grasslands and openings within shrub habitats that support Dwarf Plantago (<i>Plantago erecta</i>).	FE	None	SA	NE, None	Low to none. Outside of current known range.
Harbison's Dun Skipper (<i>Euphyes vestris harbisoni</i>)	Oak woodlands, riparian woodlands, and riparian scrub. Host plant is San Diego Sedge (<i>Carex spissa</i>)	FSC	None	SA	Covered	Low. Host plant not present on-site.
Western Spadefoot (<i>Spea hammondi</i>)	Sandy or gravelly soil in grasslands, sage scrub, chaparral, and pine-oak woodlands; grasslands with shallow temporary pools are optimal.	FSC	None	CSC	None	Moderate. Potentially present in limited numbers.
San Diego Horned Lizard (<i>Phrynosoma coronatum blainvillii</i>)	Chaparral, sage scrub, oak woodlands, and grasslands; sometimes occurs along seldom used dirt roads where native ant species are present	FSC	None	CSC, Protected	Covered	Moderate. Potentially present in limited numbers.
Coronado Skink (<i>Eumeces skiltonianus interparietalis</i>)	Variety of habitats including grasslands, sage scrub, and various woodlands.	FSC	None	CSC	None-	Moderate. Potentially present in limited numbers
Orange-throated Whiptail (<i>Cnemidophorus hyperthrus</i>)	Open sage scrub and chaparral, prefers sandy areas with patches of brush and rocks	FSC	None	CSC	Covered	High. Potentially present in limited numbers.
Coastal Whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	Coastal Sage Scrub, chaparral, and grasslands	FSC	None	SA	None	Moderate to High. Potentially present in limited numbers.
Silvery Legless Lizard (<i>Anniella pulchra pulchra</i>)	Shows a preference for areas of leaf litter and loose soil along washes, beach sand dunes, open scrub and woodland, and sandy benches along alluvial fans.	FSC	None	CSC	None	Moderate. Potentially present in limited numbers.
Coastal Rosy Boa (<i>Lichanura trivirgata roseofusca</i>)	Rocky outcrop areas within chaparral and sage scrub.	FSC	None	SA	None	Low. Rock outcroppings within appropriate habitat are limited on-site.
Two-striped Garter Snake (<i>Thamnophis hammondi</i>)	Associated with semi-permanent and permanent bodies of water in a variety of habitats; requires a relatively dense riparian border	None	None	CSC, Protected	None	Moderate. Although there is a lack of suitable habitat on-site, it has been historically reported from the area (Klauber, unpub. field notes).
Northern Red Diamond Rattlesnake (<i>Crotalus ruber ruber</i>)	Occupies rocky outcrops and areas of heavy brush or rugged terrain in chaparral, sage scrub, or desert scrub on both coastal and desert slopes, usually below 4000 feet	FSC	None	CSC	None	High. Site supports suitable habitat although rock outcrops are limited. Reported from area (Klauber, unpub. field notes).
Sharp-shinned Hawk (<i>Accipiter striatus</i>)	Mixed woodlands near open areas, prefers but not restricted to riparian habitats	None	None	CSC	None	Moderate. Site supports adequate amount of open habitat for foraging.

Name	Habitat	Federal Status	State Status	CDFG Status	MSCP Status	Probability of Occurrence
Northern Harrier (<i>Circus cyaneus</i>)	Occurs in grassland, agricultural fields, fresh and saltwater marshes and desert sinks	None	None	CSC	Covered	Moderate. Has been reported from the area (Friends of Rose Canyon); however, not expected to nest on-site due to limited habitat with appropriate conditions (generally prefers flat terrain).
Red-breasted Sapsucker (<i>Sphyrapicus ruber</i>)	Breeds in coniferous and conifer-aspen associations, including the humid coastal lowlands. Also occurs in open woodlands and parks in winter. Require live or dead trees suitable for cavity nests.	FSC	None	SA	None	Low. Has been reported from the area (Friends of Rose Canyon); however, this species is an uncommon winter visitor and is not expected to be commonly found in the area.
Western Bluebird (<i>Sialia mexicana</i>)	Open woodlands, farmlands, and orchards	None	None	None	Covered	High. Has been reported from the area (Friends of Rose Canyon).
Hermit Warbler (<i>Dendroica occidentalis</i>)	Cool, wet coniferous forests made up of Douglas-fir, hemlock, and western red cedar.	FSC	None	SA	None	Moderate. Has been reported from the area (Friends of Rose Canyon); however, this species is a migrant in San Diego County and is not expected to nest on-site.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	Feeds in grasslands and croplands, breeds near freshwater preferably in marshes or other emergent wetlands	FSC	None	CSC	Covered	Low to moderate. Very limited habitat occurs on-site.
Black-chinned Sparrow (<i>Spizella atrogularis</i>)	Chaparral in rocky landscapes. Nest in sagebrush and greasewood. Forage in open areas in winter.	None	None	SA	None	High. Has been reported from the area (Friends of Rose Canyon).
Southern California Rufous-crowned Sparrow (<i>Aimophila ruficeps canescens</i>)	Rocky hillsides supporting sparse, low scrub or chaparral, sometimes mixed with grasses.	FSC	None	CSC	Covered	High. Substantial amounts of adequate habitat on-site. Has been reported from the site (Friends of Rose Canyon).
Chipping Sparrow (<i>Spizella passerina</i>)	Open areas on the edges of coniferous woodlands and thickets, with sparse grasses under the forest canopy.	None	None	SA	None	Moderate. Has been reported from the area (Friends of Rose Canyon).
Bell's Sage Sparrow (<i>Amphispiza belli belli</i>)	Relatively open chaparral (e.g. Chamise Chaparral) and sage scrub; Non-fragmented, contiguous areas on relatively flat terrain appear to be preferred	FSC	None	CSC	None	Low to Moderate. Suitable habitat exists; however, specific conditions may not be suitable.
Burrowing Owl (<i>Athene cunicularia</i>)	Occurs in open dry grasslands, agricultural, rangelands and desert habitats. Inhabit grass, forb and shrub stages of pinyon and ponderosa pine habitats as well as airports, golf courses, and vacant urban lots	FSC	None	CSC	Covered	Low to None. Although potential habitat exists, the site lacks suitable conditions.

Name	Habitat	Federal Status	State Status	CDFG Status	MSCP Status	Probability of Occurrence
Vaux's Swift (<i>Chaetura vauxi</i>)	Ponderosa Pine, mixed conifer, Jeffrey Pine forests, and possibly black oak woodlands. Require tall, hollowed out snags or burned out stumps for nesting.	FSC	None	CSC	None	Moderate. Has been reported from the area (Friends of Rose Canyon). This species is a migrant species in San Diego County and is not expected to nest on-site.
Rufous Hummingbird (<i>Selasphorus rufus</i>)	Northwestern parks and gardens, chaparral, meadows, forest edges, riparian thickets of coniferous woodlands. High mountain meadows and open areas where flowers are present, during migration.	FSC	None	SA	None	Moderate. Has been reported from the area (Friends of Rose Canyon). This species is a spring and fall migrant and rare winter visitor.
Oak Titmouse (<i>Baeolophus inornatus</i>)	Warm, dry, intact oak or oak-pine woodland habitat. Nests in natural cavities and old woodpecker holes.	FSC	None	SA	None	Low. Site does not support adequate amount of oak woodland habitat.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Found within grassland or open habitats with bare ground and sparse shrub and/or tree cover for nesting and perching.	FSC	None	CSC	None	Moderate. Site supports adequate amount of open habitat for foraging.
Western Bluebird (<i>Sialia mexicana</i>)	Open woodlands with bordering grasslands.	None	None	None	Covered	High. Potentially present as migrant or wintering.
Coastal Cactus Wren (<i>Campylorhynchus brunneicapillus couesi</i>)	Areas of sage scrub with robust stands of <i>Opuntia</i> sp.	None	None	CSC	Covered	Low to None. Substantial stands of <i>Opuntia</i> spp. do not occur on-site.
San Diego Black-tailed Jackrabbit (<i>Lepus californicus bennettii</i>)	Relatively open chaparral and sage scrub and grasslands.	FSC	None	CSC	None	Moderate. Potentially present in low numbers.
Northwestern San Diego Pocket Mouse (<i>Chaetodipus fallax fallax</i>)	Sandy, open habitats with rocks or coarse gravel.	FSC	None	CSC	None	Low. Although soil and plant requirements for this species are not known.
Pacific Pocket Mouse (<i>Perognathus longimembris pacificus</i>)	Fine, alluvial soils near ocean bluffs, also rarely, coastal sage scrub.	FE	None	CSC	NE	Low. Although soil and plant requirements for this species are not known.
Mountain Lion (<i>Puma concolor</i>)	Chaparral or woodland habitats with requisite areas of riparian vegetation and interspersions of rock outcrops and irregular terrain where deer are present.	None	None	Protected	Covered	Low. Has been historically documented to use Rose Canyon as a corridor, but the site is not expected to offer long term or permanent habitat for this species.
Mule Deer (<i>Odocoileus hemionus</i>)	Chaparral and open forest habitats with abundant edge and interspersed riparian habitat.	None	None	None	Covered	High. Has been reported from Rose Canyon.

FE = Federal (ESA) Endangered, FT = Federal Threatened, FSC = Federal Species of Concern, SA = California (CESA) Special Animal, SE = California Endangered, ST = California Threatened, CSC = California Species of Special Concern, Covered = MSCP Covered Species.

WILDLIFE CORRIDORS

A wildlife corridor can be defined as a linear landscape feature utilized by resident or transient wildlife. Wildlife corridors can be regional or local in nature. The literature on corridors is contradictory because of the ambiguous use of the term "corridor", which is often used to describe landscape components with divergent functions (Rosenberg *et al.* 1997). Although a linear landscape feature may function solely as habitat for some residential species, in this report we intend the term "corridor" to specifically address linear landscape features allowing animal movement between two patches of more suitable habitat. A corridor is not expected to provide sufficient space and resources to meet all of the life history needs of all of its target species.

The MSCP preserve was designed to maintain connections between core habitat areas, including linkages between coastal lagoons and more inland habitats, and linkages between different watersheds. In addition to allowing for demographic and genetic exchange by all species between core preserve areas, linkages are intended to allow larger predators (mountain lions, coyotes, and bobcats) to move among conserved habitat blocks and reach coastal habitats (Conservation Biology Institute 2003).

Wildlife corridors are important in so far as they play a role in preserving species diversity. In the absence of corridors, habitats become isolated islands surrounded by development. Fragmented habitats support significantly lower numbers of species and increase the likelihood of extinction for species restricted to small areas (Soulé *et al.* 1988, Belovsky *et al.* 1994). Connections between areas of open space are integral to maintaining biological diversity and population viability.

The native habitats of Rose and San Clemente Canyons are part of the City's MSCP MHPA. Rose Canyon stretches westward from military lands east of Interstate 805 to Interstate 5. Here, the Rose Canyon habitats bend southward to the vicinity of the State Route 52/I-5 interchange and form a constrained connection to San Clemente Canyon (Marian Bear Memorial Park), which in turn connects to the eastern military lands. According to the San Diego Association of Governments GIS data, both canyons are part of the MSCP's Biological Core and Linkage Areas and Core Resource Areas.

The Marine Corps Air Station (MCAS) Miramar Integrated Natural Resources Management Plan (INRMP) states, in part, "The entire eastern portion of MCAS Miramar provides important habitat linkage with adjacent open spaces. Rose and San Clemente canyons provide important corridors through western MCAS Miramar that connect open space areas west of the Station to eastern MCAS Miramar. These corridors link the wildlife (and to a lesser extent plants) of the Station to adjacent or nearby open space and regional corridors through Mission Trails Regional Park, Sycamore Canyon County Park, Marian Bear Regional Park, and Los Penasquitos Canyon Preserve" (USMC 2000) (Figure 5). Mule deer, bobcat, and mountain lion have been documented in Rose Canyon in the western portion of MCAS Miramar (USMC 2000). The INRMP goes on to say "...(wildlife) corridors connect western Miramar with open space west of I-805. San Clemente Canyon, which runs from the northeast corner of MCAS Miramar to the southwest corner, apparently dead ends into the I-805 and State Route 52 interchange. However, there is a system of open drainages with dirt trails along the borders that provide access through the interchange into Marian Bear Regional Park on the west side of I-805. Rose Canyon, another east-west corridor within the open space of MCAS Miramar, funnels the movement of wildlife under the I-805 bridge over the railroad easement within Rose Canyon. On the west side of I-805, this wildlife corridor continues along the railroad easement

to the west until it connects with Marian Bear Regional Park at the end of San Clemente Canyon and continues south”.

The portions of Rose Canyon and San Clemente Canyon associated with this project lie within the MSCP's "Urban Areas". Urban MHPA areas contribute to the overall MHPA by providing habitat for native species to continue to reproduce and find new territories, or by providing necessary shelter and forage for migrating species (City of San Diego 1997). Rose Canyon, in conjunction with San Clemente Canyon, provides for the reproduction and dispersal of a variety of species. Plants and animals may disperse along the streamside habitats eastward toward the extant open space owned by the military, or between the two canyons through either the eastern, broad, military lands or the western, constrained corridor. The MCAS Miramar INRMP documents corridor use by Mule Deer, Mountain Lion, and Bobcat; the latter has been documented in Rose Canyon by residents living near the project area. Mule Deer sign was seen by Merkel & Associates biologists during fieldwork for the Nobel Drive Extension study in the mid- to late-90s in Rose Canyon just west of I-805. It would not be unreasonable to expect intermittent sightings of Mule Deer in the western portions of Rose Canyon, although Merkel & Associates have received no recent reports as of the date of this report. Merkel & Associates found no evidence of Mule Deer during the course of field surveys for this project. However, Mule Deer were seen in Rose Canyon in 2002 (Carla Frogner, Senior Park Ranger, pers. comm.).

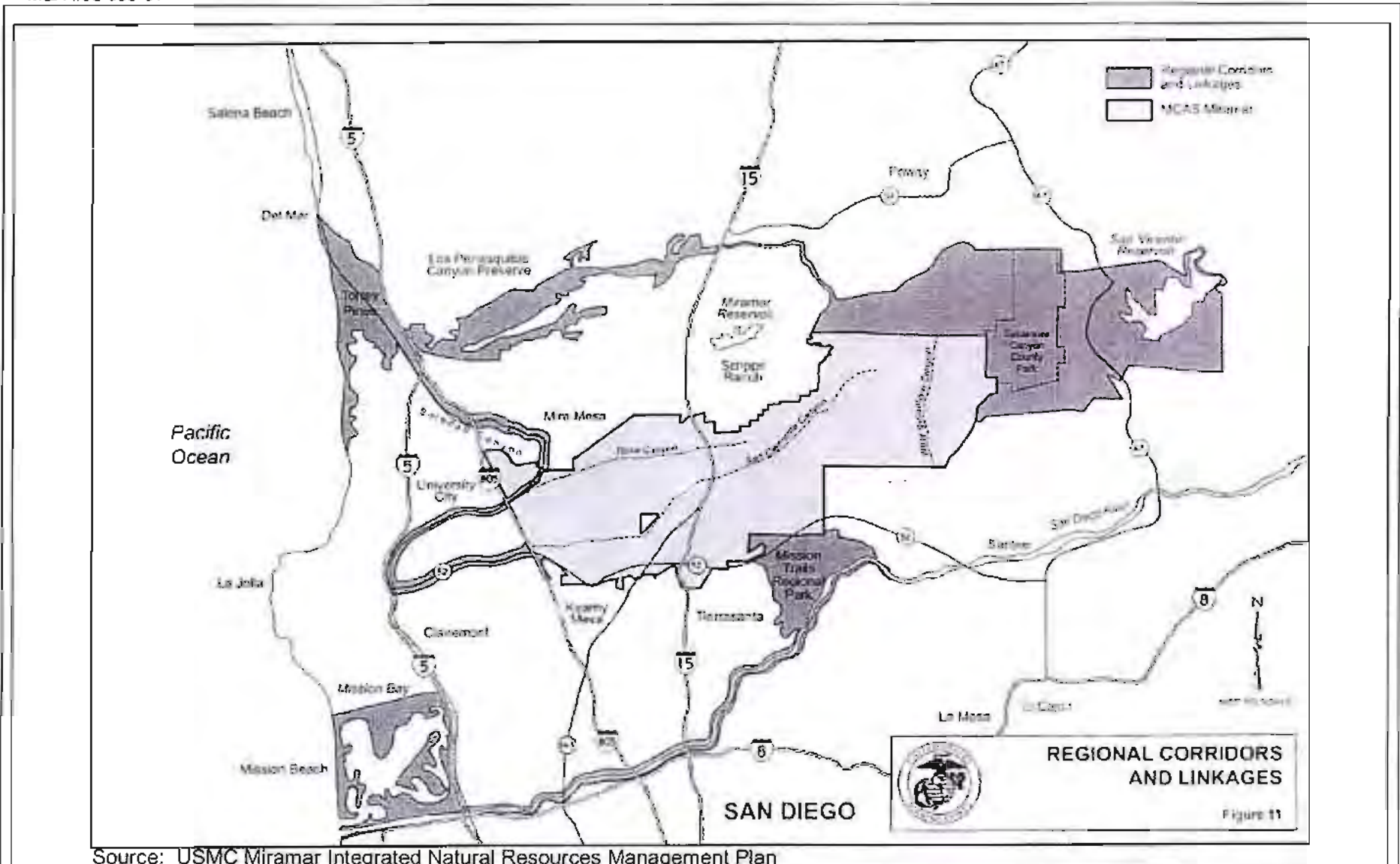
The other large mammal known to inhabit MCAS Miramar, the Mountain Lion could possibly use Rose Canyon and San Clemente Canyon as a movement corridor, and possibly a hunting area, but its occurrence is far less probable than that of Mule Deer. In 2002, as part of a study of sensitivities of mammalian carnivores in fragmented habitats in coastal southern California, Crooks reported no Mountain Lions in urban fragments (Crooks 2002).

Rose Canyon functions as a wildlife corridor supporting movement of individuals (and thus genetic material) from within Rose Canyon to open space eastward and into San Clemente Canyon and vice versa.

VERNAL POOLS

A focused search for vernal pools was not performed over the entire study area. However, the proposed impact areas (both permanent and temporary) were carefully surveyed. No vernal pools or vernal pool indicator species were found, and none are expected to occur within any of the project alternatives, due to lack of suitable conditions.

A literature search of previously completed vernal pool surveys (Bauder 1986, U. S. Fish and Wildlife Service 1997, and City of San Diego 2004) revealed no historic locations of vernal pools within the study area or its immediate vicinity. The nearest extant vernal pools are over one mile to the northeast in the vicinity of Nobel Drive and MCAS Miramar.



University City Transportation Corridor

Regional Corridors and Linkages

Figure 5