LAGUNA NIGUEL TO SAN JUAN CAPISTRANO PASSING SIDING PROJECT

BIOLOGICAL RESOURCES

DRAFT TECHNICAL REPORT

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1.0 INTRODUCTION

This Biological Resources Technical Report was prepared for the Laguna Niguel to San Juan Capistrano Passing Siding Project, located within the Cities of Laguna Niguel and San Juan Capistrano, Orange County, California. The purpose of this assessment is to analyze possible changes in biological resources and identify measures to avoid, minimize, or mitigate biological resource impacts.

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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The project is located in the urban Orange County cities of Laguna Niguel and San Juan Capistrano within existing Southern California Regional Rail Authority (SCRRA) right-of-way along Interstate 5 (I-5) and Camino Capistrano. The new passing siding track would run from south of the Laguna Niguel/Mission Viejo (LNMV) Station at the end of the existing double track and terminate north of the Trabuco Creek crossing. The project location is shown in Figure 1, and the project study area is shown in Figure 2. As shown in Figure 2, Oso Creek runs parallel to the project alignment, and Trabuco Creek crosses under the existing tracks approximately 500 feet south of the project. Regional access to the LNMV station and San Juan Capistrano station is provided by I-5 and State Route 73 (SR-73).

Land use designations adjacent to the proposed project in the City of Laguna Niguel are primarily hospitality commercial and open space. Automotive and commercial uses occur just northwest of the Laguna Niguel-San Juan Capistrano city line. In the City of San Juan Capistrano, land use designations adjacent to the proposed project consist of community park, general open space, medium low density, planned community, and special study.

Vegetation within the project area is primarily ruderal, with some ornamental and street landscaping. The proposed project is located in an area that shows a high level of disturbance. There are no designated wild and scenic rivers in the project area.

2.2 PROPOSED PROJECT

The Orange County Transportation Authority (OCTA), in cooperation with Metrolink (operated by the Southern California Regional Rail Authority), the City of Laguna Niguel, and the City of San Juan Capistrano, proposes the addition of approximately 1.8 miles of new passing siding railroad track adjacent to the existing main track between milepost (MP) 193.9 in the City of San Juan Capistrano (just south of the Laguna Niguel/Mission Viejo Metrolink Station) and MP 195.7 in the City of San Juan Capistrano (approximately 500 feet north of Trabuco Creek). A portion of the project from approximately MP 194.0 to MP 194.2 passes through the City of Laguna Niguel.

The project consists of the following features:

- Construct 1.8 miles of new passing siding railroad track
- Relocation of an existing spur track currently south of the Laguna Niguel/Mission Viejo Metrolink Station with a new spur track within the City of San Juan Capistrano at around MP 194.6
- Construction of new retaining walls
- Relocation of existing power poles, fiber optic cables, water and sewer lines
- Extension of existing casings for gas, water, and sewer lines
- Culvert extensions and other drainage refinements
- Addition of a railroad bridge or box culvert at MP 194.6
- Asphalt paving adjacent to Camino Capistrano to accommodate parking for use by railroad at MP 194.6
- Reprofiling of approximately 600 feet of Camino Capistrano adjacent to Rancho Capistrano in order to improve grades

The new passing siding and switches would be built on a bed of ballast approximately 13 to 15 feet wide and 12 to 14 inches above existing grade, occupying about 3.2 acres within the existing right-of-way.

Construction of the proposed project would occur over a period of 24 months and be confined to the area within the existing right-of-way with the exception of the asphalt paving for parking, which would be located east of the existing right-of-way and south of the crossing at Rancho Capistrano and the reprofiling of approximately 600 feet of Camino Capistrano adjacent to Rancho Capistrano in order to improve grades. Staging areas for personal vehicles, construction equipment and supplies would be established by the contractor. Train schedules would be maintained during construction.

The principal objective of the project is to assist in facilitating a faster, safer and more reliable passenger rail system for Amtrak and Metrolink operations. The proposed project would provide the necessary flexibility to transition between the two tracks and one track facility, by which allowing trains to pass through the City of San Juan Capistrano more quickly by reducing the amount of time trains may “dwell” on either end of the existing single track infrastructure.

Figure 1: Project Vicinity Map

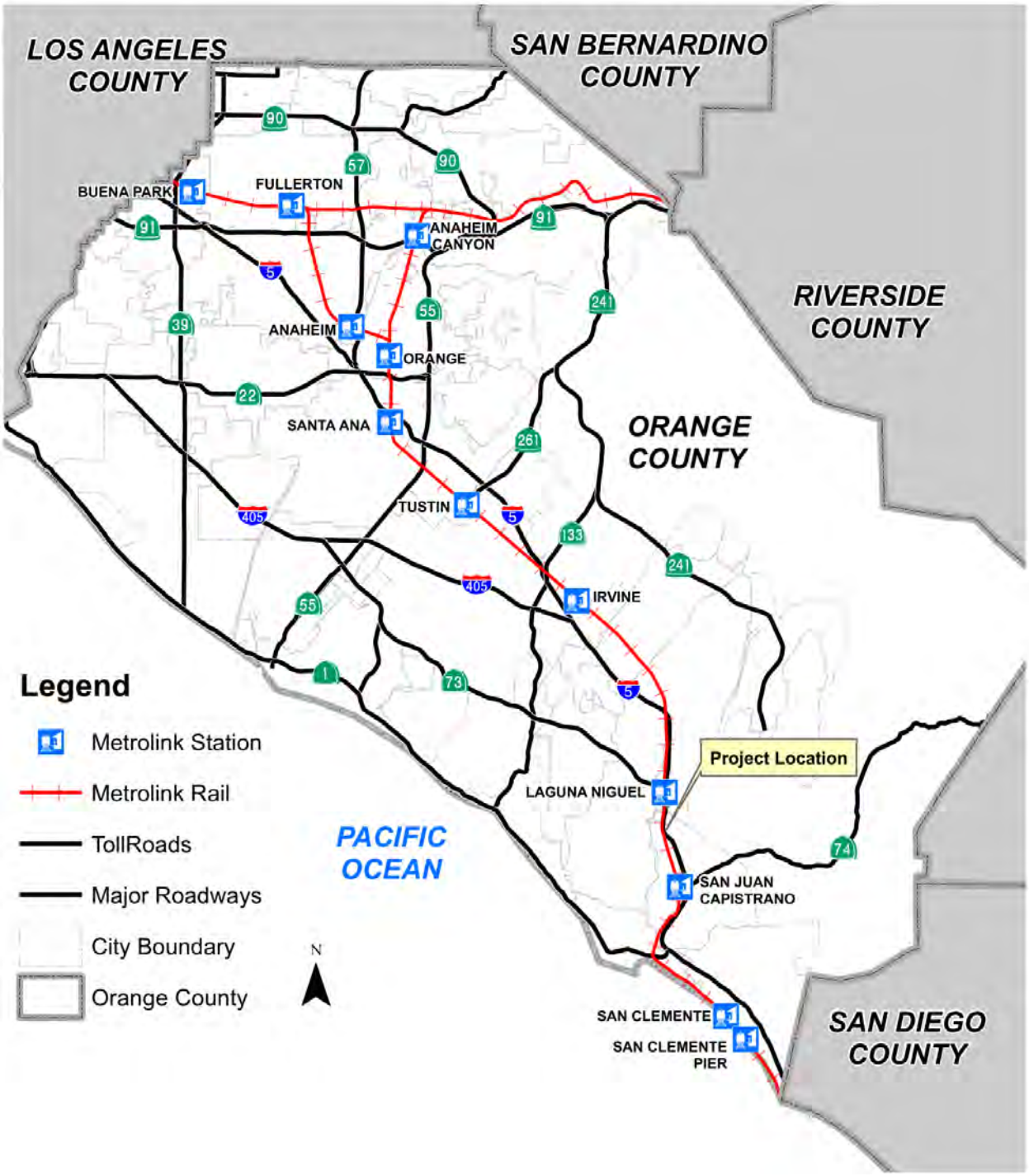

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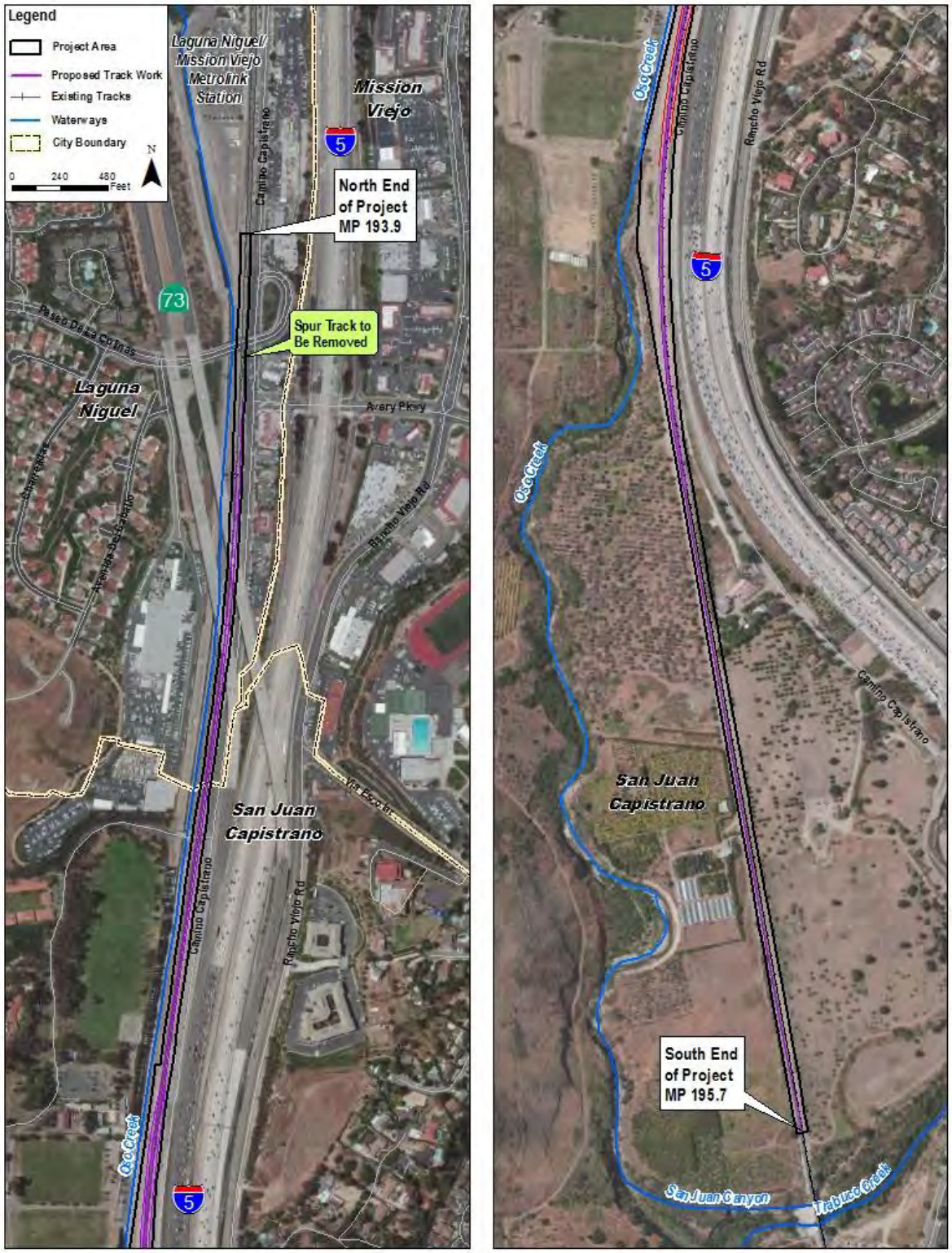
Figure 2: Project Study Area Map



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3.0 STUDY METHODOLOGY

3.1 REGULATORY REQUIREMENTS

3.1.1 FEDERAL LAWS

National Environmental Policy Act (NEPA) (42 USC 4321 et seq.)

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, requires evaluation of the potential environmental consequences of all proposed federal activities and programs.

Federal Endangered Species Act of 1973, as Amended (Public Law 93-295)

With passage of the federal Endangered Species Act (ESA), the U.S. Congress pledged the Nation to conserve, to the extent feasible, species of wildlife and plants facing extinction, pursuant to international treaties, conventions, and agreements; and to encourage states, through federal financial assistance and a system of incentives, to adopt practices which safeguard the Nation's heritage of biological resources. Lists of wildlife and plant taxa that are endangered, threatened, and candidates for listing, are published in the Federal Register at 50 CFR 17.11 and 17.12. The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over plants, wildlife, and resident fish; National Oceanic and Atmospheric Administration (NOAA) Fisheries has jurisdiction over anadromous fish, marine fish, and marine mammals. The term "take" is defined by ESA to signify harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting Federal agencies that fund, authorize, or carry out actions that "may affect" a listed species and its habitat, must consult with USFWS and/or NOAA Fisheries according to the provisions in Section 7(a) of ESA to ensure that the federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species.

Section 404 of the Clean Water Act (33 U.S.C. 1251-1376)

The discharge of dredged or fill material into "Waters of the United States" is regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Waters of the United States are broadly defined in 33 CFR 328.3 (a) (USACE Regulatory Program Regulations, Federal Register Vol. 51, No. 219, November 13, 1986) to include non-tidal, perennial and intermittent watercourses, and tributaries to such watercourses, with no stated limit on the order of tributary included as "waters."

The lateral limits of USACE jurisdiction for non-tidal watercourses (without adjacent wetland areas) is defined in 33 CFR 329.11 (a)(1) as the ordinary high water mark. Ordinary High Water Mark (OHWM) is defined as "…the line on the [watercourse banks] established by the fluctuations of water and indicated by physical characteristics such as a 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." The upstream limit of "waters" is defined as the point where the OHWM is no longer perceptible.

The USACE definition of a wetland is: "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The edge of perennial and seasonal-flow watercourses often display these characteristics as an aquatic/wetland interface, or "wetland fringe." This situation would dictate extending the lateral limit of USACE jurisdiction beyond the OHWM to include the wetland fringe. Wetlands are included as one element among several in the complete definition of what actually constitutes "waters" (see 33 CFR 328.3(a))

Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires the issuance of a water quality certification or waiver thereof for all nationwide or individual permits issued by the USACE under Section 404 of the Clean Water Act. The Environmental Protection Agency (EPA) has deferred water quality certification authority to the Regional Water Quality Control Board (RWQCB). Issuance of water quality certification (or waiver) is considered a discretionary action, requiring review under the California Environmental Quality Act (CEQA). RWQCB would be expected to consider impacts on all waters of the US and wetlands identified in the project area during the CEQA review process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides protection for most birds from incidental take. The take of birds, active nests, eggs, and nestlings is prohibited without a special circumstance permit. Activities that cause abandonment of a nest are also considered non-permitted take, prohibited by the MBTA. The Act protects not only listed sensitive species, but also common bird species. Inactive nests are not protected by the MBTA and may be removed during non-nesting season. Exclusionary structures (such as netting or plastic sheeting) may be used to discourage the construction of nests by birds within the project construction zone.

3.1.2 STATE LAWS

California Environmental Quality Act of 1970 (P.R.C. 21000 et seq.)

Project proponents are required under CEQA to disclose, consider, and avoid or reduce significant effects to endangered, threatened and rare species. Significant effects are defined in Appendix G of CEQA Guidelines as those that will:

- Substantially affect an endangered or rare animal or plant species or its habitat;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- Substantially diminish habitat for fish, wildlife or plants.

Section 15380 of the CEQA Guidelines applies the terms “endangered” and “rare” to any taxon that is actually rare or endangered throughout all or a portion of its range, even if it is not officially listed as such by a state or federal agency.

California Endangered Species Act of 1984 (Sections 2050-2098 of the California Fish and Game Code)

The California Endangered Species Act (CESA) was enacted to conserve and enhance endangered species and their habitats. CESA provides for a listing process for endangered and threatened species, and requires the California Department of Fish and Wildlife (CDFW) to maintain a species list. Plant and animal taxa are designated as endangered, threatened, or rare (rare for plants only). State agencies cannot approve any action under their jurisdiction when the action would result in the extinction of endangered and threatened species or destroy habitat essential to their continued existence, if reasonable and prudent alternatives exist. Sections 2080 and 2085 of the California Fish and Game Code (CFGC) generally prohibit taking of state-listed and candidate species without authorization from CDFW. CESA requires that the lead agency conduct an endangered species consultation with CDFW if the proposed action could affect a state-listed species. This process requires providing CDFW with information on the project and its potential impacts. CDFW then prepares a written finding on whether the proposed action would jeopardize the listed species or destroy essential habitat. In the case of an affirmative finding, CDFW presents alternatives to avoid jeopardy. Under Section 2081 of the CFGC, the CDFW may authorize take of endangered, threatened or candidate species through issuance of permits or memorandum of understanding.

Another category of legal protection status for wildlife species in California includes

> "Fully protected animals" which are protected under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the CFGC. Protection is afforded to these animals under the code to the extent that such animals, "or parts thereof," may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected animal and no such permits or licenses heretofore issued shall have any force or effect for any such purpose…"

Sections 1600-1616 of the California Fish and Game Code

The CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Section 1602 of the CFGC requires notification to the CDFW for lake or stream alteration activities. If, after notification is complete, the CDFW determines that the activity may adversely affect an existing fish and wildlife resource, the CDFW has authority to issue a streambed alteration agreement. Requirements to protect biological resources and water quality are often conditions of streambed alteration agreements. These may include avoidance or minimization of heavy equipment use within stream zones, limitations on work periods to avoid impacts to wildlife and fisheries resources, and measures to restore degraded sites or compensate for permanent habitat losses.

Porter-Cologne Water Quality Act of 1969

The Porter-Cologne Act designates the State Water Resources Control Board (SWRCB) and the RWQCBs as the State agencies with primary responsibility for water quality control in California and mandates them to address actions that could affect the quality of waters of the State. "Waters of the State" are defined as all surface water or groundwater within the boundaries of the state, including "isolated" waters and wetlands. These agencies are authorized to designate beneficial uses of the waters of the State, establish water quality objectives to protect those uses, and develop programs to meet water quality objectives and maintain or restore designated beneficial uses. Section 13263 of the Porter-Cologne Act authorizes the RWQCB to regulate discharges of waste and fill material to waters of the State through the issuance of waste discharge requirements (WDRs).

Native Plant Protection Act of 1973 (Sections 1900-1913 of the California Fish and Game Code)

The legal protection afforded listed plants under Native Plant Protection Act (NPPA) includes provisions that prohibit the taking of plants from the wild and a salvage requirement for landowners. If a landowner has been informed of the presence of a listed species on the property, CDFW must be notified at least ten days in advance of any land use change that might affect the species or its habitat, thereby affording CDFW an opportunity to conduct a salvage operation. Candidate species are also protected from taking under NPPA.

CDFW has demonstrated a general policy of regarding many plant species on Lists 1A, 1B and 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2013) as meeting the definitions of Chapter 10, Section 1901 (Native Plant Protection) of CFGC and, therefore, qualified for protection under CEQA. Plants on the CNPS watch lists (3 and 4) are not protected by NPPA. However, because they are considered declining species, they may be informally protected. CNPS also lists unique plant communities that are also informally protected.

3.2 STUDIES CONDUCTED

Biological resources in the project study area were characterized by reviewing existing information and conducting field surveys of botanical, wetland, and wildlife resources. Biological database and literature sources were reviewed concerning the habitats, geographic ranges and documented occurrences of sensitive plant and wildlife species in the vicinity of the study area. Information sources included but were not limited to the following:

- California Natural Diversity Data Base (CNDDB) (CDFW 2003) (Updated January 2013) California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2013) (Updated January 2013)

A species list was obtained from the USFWS for the U.S. Geological Survey 7.5-minute quadrangle that encompass the study area (San Juan Capistrano). This list includes all federally listed, proposed and candidate species and federal "species of concern" that the USFWS considers to have potential to be affected by projects within the quadrangle. A radius of 0.5 mile was used as the project study area for evaluating wildlife occurrences.

Using results of the literature and database review, target lists of special-status plant and animal species were generated. Field studies were then conducted along the Laguna Niguel to San Juan Capistrano Passing Siding Project corridor to:

- Characterize the vegetation and wildlife habitat types
- Assess potential direct and indirect impacts of the project on biological resources.
- Evaluate the potential for occurrence of federal and state-listed species and other special-status species within the project corridor

Surveys conducted in February 2009 covered the entirety of the project study area as defined at the time (right-of-way between the Metrolink stations at Laguna Niguel and San Juan Capistrano, Trabuco Creek crossing, and abutting land) over the course of four days. Resource agency personnel from the Army Corps of Engineers (USACE), CDFW, and Trout Unlimited were contacted to discuss resource issues of concern and potential permit authorizations. Since the 2009 surveys, the project alignment has been modified, and it now ends approximately 500 feet north of Trabuco Creek (Figure 2). Additional surveys were conducted in March 2012. The surveys are described in Section 3.3. References consulted are retained in Section 8 – References (Southerland 2009).

This report has been revised to address only those biological resources that are relevant to the project as currently defined and, therefore, does not address species or habitat associated with Trabuco Creek or areas south of Trabuco Creek.

3.3 PERSONNEL AND SURVEY DATES

Field surveys to map plant communities and survey for sensitive plant species and wetland areas were conducted by Parsons Brinckerhoff biologist Justin Mercer from February 17 to February 20, 2009. The wildlife habitat survey was conducted by biologist Justin Mercer from February 18 to February 20, 2009. These surveys were conducted along the existing right-of-way between the Metrolink stations at Laguna Niguel and San Juan Capistrano. The wildlife surveys were performed by walking along the railroad tracks between Laguna Niguel and San Juan Capistrano and by canvassing the Trabuco Creek crossing.

Field surveys were conducted to characterize common and sensitive biological resources and assess the potential for occurrence of special-status species within the study area. These studies included plant community mapping, a preliminary wetlands assessment, a rare plant survey, and a wildlife reconnaissance survey. Local conditions at the time of survey ranged from overcast to sunny, with average daily temperatures of 62^{o}F, average humidity of 45 percent, average wind speed of 1.6 miles per hour, and 0.03 inches of precipitation.

An additional field survey was conducted by Stephanie S. Oslick, AICP (Parsons Brinckerhoff) on March 22, 2012, due to the reduction of the project limits and the passage of time from the original survey. Local

conditions at the time of survey was clear and sunny, with average daily temperatures of 63°F, average humidity of 35 percent and average wind speed of 5.0 miles per hour.

3.3.1 Plant Surveys

Plant communities were identified in the field, and classified based on Holland (1986, updated 1996). Areas covered in these surveys included the project corridor, shown in Figure 2, from Laguna Niguel to San Juan Capistrano and adjacent biological communities. The survey areas extended out approximately 50 feet from the centerline of the existing railway on each side of the track.

3.3.2 Wildlife Surveys

A reconnaissance-level wildlife survey was conducted throughout the study area focusing on areas with the potential to support wildlife. The purpose of the survey was to characterize wildlife habitats, evaluate the potential of the habitat to support special status species, and assess important wildlife resources, including nursery sites and migration corridors. Habitat evaluations were based on visual assessment of habitat features, habitat suitability for target species, and overall habitat quality. Habitat features and wildlife sightings that were incidentally observed were also recorded. During surveys of the study area, special attention was focused on features that increased the habitat value for wildlife, including creeks and adjacent riparian corridors; stands of trees; bridges and culverts; and potential migration corridors. Areas that contained suitable habitat specific to state and federal special-status species were identified.

3.4 LIMITATIONS THAT MAY INFLUENCE RESULTS

One botanical survey and one wildlife reconnaissance/habitat survey were performed in February 2009, each of which covered the entirety of the proposed project area. The habitat surveys identified specific areas along the corridor where species could occur or suitable habitat could be affected by construction. However, because avian species could still inhabit their wintering grounds in February, the likelihood of discovery was low. For special-status species, review of existing information and results of the habitat assessment surveys was sufficient to identify those species that have potential to occur in the study area, assess potential impacts of the project on these species, and develop appropriate avoidance, minimization, and mitigation measures.

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4.0 ENVIRONMENTAL SETTING

The project corridor exists solely within the Southern California Coast subregion [USDA Forest Service Ecological Subregions of California: Section and Subsection Descriptions (USDA 1997)]. From north to south along the project corridor, the railroad track moves through an urbanized area consisting primarily of commercial establishments at the northern end of the project area, the channelized Oso Creek west of the project corridor, and through undeveloped, open space areas including agricultural land (Northwest Open Space).

This area encompasses a relatively narrow range of biological and physical conditions and supports a variety of land uses. Natural communities include riparian communities, mixed scrub, landscaping vegetation, ruderal vegetation, and annual/perennial non-native grasslands. .

The undeveloped and open spaces adjacent to Oso Creek could be used as foraging areas for raptors and other bird species. The Trabuco Creek area, south of the project area, has a dense community of riparian woodlands. The area contains different layers within the riparian woodlands (grassland, shrubs and trees) which would provide a diverse habitat for plant and animal species. However, the southern project limit is more than 500 feet north of this area.

4.1 PHYSICAL CONDITIONS

Elevation along the Laguna Niguel to San Juan Capistrano corridor ranges from approximately 82 meters above sea level at the Laguna Niguel Metrolink station to 37 meters at the San Juan Capistrano Metrolink station. The climate of the region is Mediterranean with cool, wet winters (November to April) and warm, dry summers (May to October).

The proposed project corridor travels through the Oso and Arroyo Trabuco Creek watersheds. The project corridor also crosses several other, unnamed, watercourses that are channelized irrigation ditches with culverts that serve to transport collected water to Oso Creek and Arroyo Trabuco Creek.

Soils in the project study area formed in alluvium from predominantly sedimentary or granitic parent materials. The soil temperature regimes are thermic, and the soil moisture regimes are xeric (USDA 1972, 1985, 1992).

4.2 BIOLOGICAL CONDITIONS

This section describes plant communities and wildlife habitats and their distribution within the project study area. Those biological conditions that are outside the revised project study area are not addressed.

4.2.1 Plant Communities

Four plant communities were identified within the project area.

Riparian Scrub (Southern Willow Scrub)

Riparian scrub is a shrub-dominated community that grows along the banks of a rivers, creeks, or drainage ditches. Riparian scrub can also occur in areas with high water tables. Riparian scrub may or may not qualify as wetlands under USACE jurisdiction. In the study area, riparian vegetation is sparse (a few individuals) or absent where the streams have been channelized, stabilized with riprap, or directed into culverts.

Non-Native Grassland

This plant community abuts the right-of-way and in some cases has encroached into the right-of-way. The community is comprised of a mix of non-native and native annual and perennial grasses, wildflowers, and

orange trees (*Citrus sinensis*). The orange trees are part of an orchard, which is sparsely planted, with an open canopy that allows the grasses and herbs to dominate the understory. Common grass species include rescuegrass (*Bromus catharticus),* ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus),* wild oat (*Avena fatua*), slender oat (*Avena barbata*), and vulpia (*Vulpia* spp.). The dominant wildflowers in this community are field mustard (*Brassica rapa*), India mustard (*Brassica juncea*), hedge mustard (*Sisymbrium officinale)* and sourgrass (*Oxalis pes-caprae)*. Non-native grasslands (and the orchard) abut the right-of-way for a significant portion of the project corridor, but are limited in extent within the right-of-way due to the previous disturbances associated with construction of the railroad grade, as well as rocked surfaces bordering the tracks and a service road the separates the right-of-way from the grassland.

Ruderal

Ruderal vegetation is common and is the dominant vegetation type throughout most of the right-of-way. It is characterized by weedy species that have colonized disturbed areas such as railroad berms, the maintenance strip between the elevated berm and agricultural or developed land, and unpaved access roads. Species composition was fairly homogenous at the time of the survey. Typical ruderal species encountered in the study area included common dandelion (*Taraxacum officinale*), rough cat's ear (*Hypochaeris radicata*), field mustard (*Brassica rapa*), hedge mustard (*Sisymbrium officinale)*, cretanweed (*Hedypnois cretica*) and artichoke thistle (*Cynara cardunculus).* Grasses such as Harding grass, slender wild oat, annual rye grass, soft brome, and pampas grass (*Cortaderia selloana*), and herbs such as vetch (*Vicia sativa* ssp. *nigra* and *V.s*. ssp. *sativa*) and fennel (*Foeniculum vulgare*) were encountered at lesser frequencies.

Developed/Landscaped

These areas include all paved areas such as parking lots and roads crossed by the right-of-way, city parks, schools, landscaped areas, and commercial landscaping and residential backyards. Vegetation is highly variable in these areas and includes a broad array of trees and shrubs planted and maintained as landscaping. The most frequently encountered species were sweetgum (*Liquidambar*), magnolia (*Magnolia sp*.), California sycamore (*Platanus racemosa*), and bouganvillia (*Bougainvillea glabra*)

4.2.2 Wildlife Habitats in the Project Area

The classification of wildlife habitats generally follows that used for plant communities; in some cases, a wildlife habitat type includes more than one plant community where those communities provide similar habitat characteristics and support a similar assemblage of wildlife species.

Riparian Scrub and Woodland

Riparian communities provide high habitat value for wildlife. These communities offer diverse habitats created by the layering of trees, shrubs, herbs, and aquatic vegetation, as well as access to streams for drinking and foraging. Riparian zones provide important nesting habitat for birds, offer cover and refuge sites for amphibians, reptiles and small mammals, and serve as important movement corridors for wildlife. They also enhance the value of adjacent upland habitats by providing water, foraging resources, and thermal refuges.

Non-native Grassland

Non-native grasslands support a variety of small mammals and provide important foraging habitat for raptors and other bird species.

Ruderal Vegetation

Areas with ruderal vegetation provide relatively low habitat value for wildlife because they are generally degraded communities dominated by non-native, weedy plants. These areas typically provide low-quality foraging habitat for birds and small mammals, but can provide marginal habitat for some species, depending

on the type and amount of vegetation present. The sparse nature of the ruderal vegetation within the project corridor renders it poor quality habitat for the greater majority of species.

Developed/Landscaped Areas

Developed areas, particularly residential developments and areas with landscaping vegetation, can provide moderate habitat value for wildlife. The planting and maintenance of shrubs, trees, ornamental plants, and lawns in residential areas and at parks enhance this habitat for animal species that can coexist with humans. The moderate numbers of planted trees in the study area provide some habitat value for resident or migratory birds, and may serve as nesting sites.

4.2.3 Wildlife Corridors

The Laguna Niguel to San Juan Capistrano project area is buffered on its eastern side by urban development and the I-5 freeway. The project does not exist within a defined wildlife corridor and its removal would not expand wildlife habitat to the east. To the west, open and somewhat contiguous wildlife habitat extends to the Pacific Ocean. The railway does not prohibit movement to the west.

4.3 NATURAL COMMUNITIES IN THE PROJECT AREA

4.3.1 Wetlands and Waters

Wetlands are defined based on federal regulations as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE 1987 and 2008). Wetlands are defined by the USACE using three parameters: hydrophytic vegetation, hydric soils and wetland hydrology.

As used in this report, "waters" includes both navigable waters and other non-wetland Waters of the United States. These are unvegetated areas that are comprised of open water for a portion of the year and meet the criteria described in 33 CFR 328.3.

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa takes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.

Wetlands and other Waters of the United States are present along the project area. Field investigations identified two wetland plant communities and three non-wetland waters, including watercourses with seasonal and perennial flows (Hickman 1993, Reed 1988).

Wetlands

Riparian vegetation is sparse (a few individuals) or absent in the project area where the streams have been channelized, stabilized with riprap, or directed into culverts.

Waters

Two categories of non-wetland waters were identified: watercourses and perennial watercourses. Watercourses in the study area include drainage ditches with culverts. Oso Creek, located in the project vicinity, is one high-order perennial stream.

4.4 SPECIAL-STATUS SPECIES POTENTIALLY PRESENT IN THE PROJECT AREA

The special-status plant and animal species with potential to occur within half a mile of the project area was obtained from the CNDDB records (CDFW 2013, updated in January 2013) and are identified in Table 1. This list was evaluated with respect to the habitat types identified in the study area to determine which of the special-status species had the potential to occur and be affected by the project (Jennings and Hayes 1994).

Table 1: Special-Status Plant and Animal Species Potentially in the Project Study Area

Common Name	Scientific Name	Status[1] (Fed./State)	Habitat	Potential to Occur
PLANT				
White Rabbit Tobacco	*Pseudognaphalium leucocephalum*	CNPS 2.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral; sand, gravelly sites from 0-2100m	Low
INVERTEBRATES				
Monarch Butterfly	*Danaus plexippus*	- / -	Roosts located in wind-protected tree groves (Eucalyptus, Monterety Pine, Cypress) with nectar and water sources nearby	Moderate
FISHES				
Arroyo Chub	*Gila orcutti*	- / -	Slow water stream sections with mud or sand bottoms; feeds heavily on aquatic vegetation and associated invertebrates	Low
REPTILES				
Western Pond Turtle	*Emys marmorata*	- / CSC	Aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches; need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5km from water for egg laying	Low
BIRDS				
White-Tailed Kite (nesting)	*Elanus leucurus*	- / CFP	Rolling foothills and valley margins with scattered oaks and river bottomlands; open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching	Low
Coastal California gnatcatcher	*Polioptila californica californica*	FT / CSC	Open sage scrub with California sagebrush as a dominate or co-dominant species	Low

[1] Status Definitions (CNDDB Special Animals List, January 2011; CNDDB, January 2013; CNPS, 2013):

FT Listed as Threatened under the federal Endangered Species Act
CFP California Fish and Game Code Fully Protected Species
CSC California Department of Fish and Game Species of Special Concern
CNPS Rare Plant Rank 2 (formerly list 2): plants rare, threatened, or endangered in California, but more common elsewhere
Threat Rank 0.2: Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

4.4.1 Federal or State Listed Species

The California gnatcatcher (*Polioptila californica*) is a non-migratory bird native to Southern California listed as federally threatened. The current range of the California gnatcatcher is predominantly from Southern California to northern Baja California (Grinnell and Miller 1944, Kaufman 1996). The highest densities occur in coastal areas of Orange and San Diego counties.

The species is limited to elevations below 500 feet and most frequently inhabits open sage scrub plant species with California sagebrush (*Artemesia californica*) as a dominant or co-dominant species below 300 feet in elevation. California buckwheat (*Eriogonum fasciculatum*), California sunflower (*Encilia californica*), broom baccharis (*Baccharis sarothroides*), and laural sumac (*Malosma laurina*) are also favored nesting species. The California gnatcatcher typically nests less than one meter from the ground in shrubs that average less than 5 feet tall.

The project study area does not support the open sage scrub plant communities that the California gnatcatcher favors, so its occurrence is not likely.

4.4.2 Other Special Status Species

The Monarch Butterfly (*Danaus plexippus*) is a milkweed butterfly that feeds on various nectar plants, and they prefer open habitats including fields, meadows, weedy areas, marshes and roadsides. Their range includes southern Canada, the United States, Central America, and most of South America. They are most commonly known for their mass migration towards North America, and their overwintering sites in California and Mexico. In North America during spring and summer there may be 1-3 broods in the north and 4-6 broods in the south. They may breed all year in Florida, South Texas, and southeastern California (Opler et. al, 2012).

Although there is a moderate possibility of Monarch butterflies being within the project area, they likely would move away to a different location more suitable during construction. Therefore, the potential impact to this species is considered low.

4.5 INVASIVE EXOTIC PLANT SPECIES

The exotic invasive status of all plants observed in the project corridor during the botanical survey was identified by consulting the California Invasive Plant Council List of Exotic Pest Plants of Greatest Ecological Concern in California (Cal IPC 2013). Common invasive species found throughout the project corridor include black mustard (Brassica nigra), bermudagrass (*Cynodon dactylon*), yellow starthistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), and perennial sowthistle (*Sonchus arvensis*). Other invasive species occur in scattered patches, primarily artichoke thistle (C*ymara cardunculus*) and pampas grass (*Cortaderia jubata*). These are all highly invasive plants that displace native species and degrade native plant communities (Bossard et. al 2000). They are most prevalent outside the right-of-way, but in some cases encroach into it. Within the corridor, these species are most prevalent on the railroad grade but are also interspersed with native species in natural wetland and upland habitats.

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5.0 IMPACTS

This section analyzes potential impacts on biological resources as a result of the proposed project. Most of the impacts discussed in this section are associated with the extension of three culverts.

Impacts from the proposed project could include alteration of plant communities and wildlife habitat, alteration or loss of wetlands and other waters, removal and trimming of native trees, and alteration of stream banks. Specific types of potential impacts are listed below in Section 5.1. Temporary construction-related impacts are described in Section 5.2, and permanent direct impacts are described in Section 5.3. Potential cumulative impacts are discussed in Section 5.4. Mitigation measures designed to reduce the likelihood and magnitude of the potential impacts are described in Section 6.0.

5.1 TYPES OF POTENTIAL IMPACTS

Potential project impacts are categorized into four types for this analysis: temporary direct impacts, permanent direct impacts, indirect impacts, and cumulative impacts.

Temporary, direct impacts are short-term effects associated with project construction activities, including repairable ground disturbance in temporary work areas. These effects include temporary disturbance or displacement of non-special-status wildlife species in construction areas. Potential temporary, direct impacts to biological resources would include:

- Damage to upland vegetation and wildlife habitat within temporary work areas (construction access, staging, storage, and parking areas)
- Disturbance to wildlife species (including nesting birds) associated with construction activities (e.g., increases in noise, dust, human activity, and nighttime lighting)
- Introduction or spread of noxious weeds in the project area

Permanent direct impacts to biological resources include conversion of natural habitats to developed land, other permanent alterations of natural biological communities, and harm or mortality to individuals of special-status plant or animal species. Adverse effects on special-status species are considered permanent impacts, even if they occur in temporary work areas. Potential permanent, direct impacts would include:

- Permanent disturbance to stream banks/bed and wetlands/Waters of the United States due to construction of culverts
- Removal of vegetation and wildlife habitats due to construction of track improvements, retaining walls, and culverts

Indirect impacts are those that would occur later in time after development of the proposed project, including long-term rail operation and maintenance activities. Potential indirect impacts to biological resource would include:

- Increases in noise, vibration, dust, and nighttime lighting associated with the new passing siding
- Disturbance to plants and wildlife during maintenance and repair activities
- Displacement of wildlife from areas adjacent to, but outside of, the project study area

Cumulative impacts are those changes in the environment from the incremental impact of one project when added to other closely related past, present, and reasonably foreseeable future projects. Section 15355 of the CEQA guidelines defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative effects can result from individually minor, but collectively significant actions that take place over a period of time (40 CFR 1508.7).

Cumulative impacts to biological resources are not anticipated, as the project would be constructed and operate within an existing railroad right-of-way. Further, the project would not result in an increase in train traffic within the project area.

5.2 TEMPORARY CONSTRUCTION-RELATED IMPACTS

Impact: Damage to upland vegetation and wildlife habitat within temporary work areas (construction access, staging, storage, and parking areas)

Upland plant communities within the study area include non-native grassland, non-wetland riparian, and ruderal habitat. These habitats provide important resting, nesting, and escape cover for local and migratory wildlife species, as well as corridors for wildlife movement and dispersal. Operation of vehicles and equipment in temporary construction access and staging areas, parking of vehicles, and placement of equipment and materials in temporary storage areas could remove or crush vegetation, damage tree roots, compact soil, or collapse animal burrows. Accidental spill or release of a hazardous material could harm wildlife and impair the recruitment and establishment of onsite vegetation. Ground disturbing activities, stockpiling and erosion control practices could provide opportunities for the recruitment and establishment of non-native species. The risk of adverse effects would be greatest during the rainy season when soil is saturated.

Impact: Disturbance to wildlife species (including nesting birds) associated with construction activities (e.g., increases in noise, dust, human activity, and nighttime lighting)

Construction activities could affect birds nesting in vegetation in or adjacent to work areas. Trimming or removal of vegetation could destroy or disturb active nests. Equipment noise, vibration, lighting and other human-related disturbance could disrupt nesting, feeding or other life cycle activities, and could cause nest abandonment or nesting failure. Active nests of most bird species are protected by the federal Migratory Bird Treaty Act and Section 3503 of the CFGC, and raptor nests are protected under Section 3503.5 of the CFGC.

Impact: Introduction or spread of noxious weeds in the project area

Project construction could inadvertently spread existing populations of invasive weeds and/or introduce new species from contaminated sources. The project study area has exotic invasive plants, some of which are already widespread and others that occur in isolated patches. Invasive plants could be introduced or spread at any time of year by transfer of seed or plant fragments on vehicles and heavy equipment; through erosion control practices such as placement of hay bales, seeding, or mulching; and during landscaping or reestablishment of natural vegetation within the right-of-way.

5.3 PERMANENT DIRECT IMPACTS

Impact: Permanent disturbance to stream banks/bed and wetlands/Waters of the United States due to extension of culverts

Construction activities could impact wetlands and other waters in temporary work areas, including Oso Creek adjacent to the project corridor. Operation of vehicles and equipment in these areas could adversely affect wetland and stream habitat by compacting or otherwise damaging soil conditions. Ground disturbance and other activities adjacent to stream zones could result in increased erosion, water turbidity, and sediment transport into waterways. Oil, gas and other pollutants could be released into water bodies. These temporary effects could adversely affect aquatic organisms and/or their habitat in the vicinity of work areas.

Impact: Removal of vegetation and wildlife habitats due to construction of track improvements, retaining walls, and culverts

Implementation of the propose project, including the additional rail and retaining walls would result in permanent conversion of upland plant communities and associated wildlife habitats to developed land. All of

the upland communities in the study area provide limited values to dependent species and are locally and regionally common.

5.4 CUMULATIVE IMPACTS

An analysis of cumulative impacts involves analyzing either (1) “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the (lead) agency,” or (2) “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact” (CEQA Guidelines Section 15130).

The consideration of cumulative impacts for this project takes into consideration the transportation improvement projects in the vicinity: the Metrolink Service Expansion Program, the City of Laguna Hills 2007 Six-Year Capital Improvements Program, the Laguna Hills Gateway Specific Plan Update Program Environmental Impact Report (City of Laguna Hills 2009), and the City of San Juan Capistrano Capital Improvements Program 2008-2015 (City of San Juan Capistrano 2008).

The proposed project will be constructed and operated entirely within an existing railroad right-of-way, in a location where a majority of the surrounding area is developed and biological resources are limited. With implementation of the proposed avoidance, minimization and mitigation measures, project-related impacts to sensitive biological resources would be less than significant. As a result, the project would not add to the impacts of other transportation improvement projects in Orange County or in the LOSSAN corridor. The project would have no cumulative impacts to sensitive biological resources.

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6.0 MITIGATION MEASURES

The measures described below would reduce the likelihood and magnitude of adverse temporary and permanent impacts to sensitive biological resources that could result from implementation of the proposed project. Those measures that cannot be included in the project design shall be considered as additional measures and shall be implemented at appropriate times by responsible parties. If necessary, specific mitigation agreements would be developed through consultation with the resource agencies (USACE, USFWS, NOAA Fisheries, CDFW, etc.) prior to project implementation.

- Construction access, staging, storage, and parking areas shall be located outside of wetlands, stream zones and riparian vegetation. Vehicle travel in or adjacent to wetlands and riparian areas shall be limited to existing roads and designated access paths. Work areas in and adjacent to sensitive natural communities (i.e., wetlands, waters, and riparian zones) shall be conspicuously marked in the field to minimize impacts to these communities, and work activities shall be limited to within the marked areas.

- For construction activities in or adjacent to waterways or wetlands, best management practices (BMPs) shall be implemented to minimize erosion and sedimentation. In addition, a Storm Water Pollution Prevention Plan (SWPPP) may be required for the project. Example BMPs include:

    a. Control sheet flow and run off from all disturbed areas using ditches, berms, weed-free waddles, straw bales, and silt fencing.
    b. Use approved sediment control procedures to minimize sediment content of water flowing from work areas and into waters.
    c. Cover or stabilize loose soil and exposed slopes prior to the onset of rainy season and any time that rain is forecast within 24 hours.
    d. Use geotextile fabric or protective mats where feasible to minimize ground damage where vehicle travel through wetlands or other saturated soil areas cannot be avoided in temporary work areas.
    e. Install silt fencing and fiber rolls around soil and gravel stockpiles prior to the rainy season (between October 15 and April 15) to prevent sedimentation in nearby watercourses and wetlands.
    f. Hydroseed disturbed areas before the rainy season with a mixture of native and non-invasive plants that provide protection from erosion. The seed mixtures should be developed for each site based on local conditions.

- To the extent feasible, trees and shrubs in the construction zones shall be trimmed or removed between September 1 and January 31 to reduce potential impacts to nesting birds. If vegetation must be removed between February 1 to August 31, a qualified wildlife biologist shall conduct pre-construction surveys for nesting birds. Prior to the initial disturbance of vegetation within the work zone, the biologist shall carefully search all trees and shrubs within the work zone and in a surrounding buffer zone for bird nests. If an active nest is found, the species shall be identified, and the approximate distance from the closest work site to the nest shall be estimated. No additional measures shall be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet (90 m) for raptors; or (b) 75 feet (23 m) for other non-special-status bird species. If active nests are closer than those distances to the nearest work site, the nest site shall be fenced in all directions, and the area shall not be disturbed until September 1 or until the nest becomes inactive.

- During construction activities, the following practices shall be implemented to reduce the spread of exotic invasive plants through the project corridor:

  Vehicle use and maintenance
  a. Minimize vehicle travel through weed-infested areas.
  b. Establish a washing site for vehicles and equipment at each staging area. Wash all vehicles to remove all soil and plant material before bringing them on the project site. Appropriate washing techniques include power-washing or high-pressure cleaning.

  Earth-moving and erosion-control activities
  c. Minimize soil disturbance and the removal of existing vegetation (exotic or native) to the extent feasible.
  d. Obtain only weed-free sources of gravel, rock, soil, and any fill materials.
  e. Avoid moving existing weed-infested materials to relatively weed-free areas.
  f. For erosion control measures, use only certified weed-free straw and mulch or weed-free fiber roll barriers or sediment logs.

- A worker education program shall be developed and presented to all construction personnel before they start work on the project. The program shall summarize relevant laws and regulations that protect biological resources, discuss sensitive habitats and special-status species with the potential to occur in the work zone, explain the role and authority of the biological monitors, and review applicable avoidance and minimization measures to protect sensitive species and habitats.

- Obtain resource agency permits for impacts associated with the three culvert extensions. Compliance with permit conditions may require additional measures.

7.0 PERMITS AND REGULATORY REQUIREMENTS

The proposed work in the three culverts will impact jurisdictional areas as defined by the USACE, RWQCB, and CDFW and will require the following resource agency permits:

USACE Section 404 permit

RWQCB Section 401 Certification

CDFW Section 1602 Streambed Alteration Agreement

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