Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Chapter 2 examines the impacts that the project would have on the human, physical, and natural environments in the project area. It describes the existing environment that could be affected by the project and potential impacts on the environment from each of the alternatives.

As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered, but no potential for adverse impacts to these resources were identified. Consequently, this Initial Study (IS) did not discuss these resources in further detail. These environmental resources are discussed in Appendix A, the Initial Study Checklist, and are summarized briefly below.

- Agriculture Resources. The project site is an existing highway and does not contain lands designated by the California Resources Agency as Important Farmlands (Prime Farmlands, Unique Farmlands, or Farmland of Statewide Importance). No change in land use designation is required to implement the proposed project. As such, no further discussion of Agriculture Resources is provided in this IS.

- Coastal Zone: The project is located outside of and is non-contiguous to the Coastal Zone and is not anticipated to have any effects on coastal resources. Therefore, it would not impact coastal resources and no further discussion is necessary.

- Environmental Justice: The study area is predominantly non-minority (90 percent) and has a high median income, (greater than $100,000 per year). This 1990 Census data supports the field review, which did not identify pockets of minority and/or low-income populations. The percent of the population identified as low-income or a minority was less than half that of the City or County. Impacts were distributed throughout the study area and not concentrated in any particular area. Therefore, no minority and/or low-income populations have been identified that would be adversely affected by the

proposed project as determined above. Therefore, this project is not subject to the provisions of E.O. 12898.

- Farmlands/Timberlands: No farmlands or timberlands are present within the project area; therefore, no further discussion is necessary.

- Hazardous Waste/Materials: An Initial Site Assessment was performed in May 2000, updated in April 2003, and further updated in April 2007. No structures or contaminated sites were identified within the Project Limits; therefore, no further discussion is necessary.

- Mineral Resources: There are no mineral resources located within or adjacent to the proposed project; therefore, no further discussion is necessary.

- Relocations: No residential or business relocations necessitating the Relocation Assistance Program would be required as a result of this project. Ten, small "sliver" portions of right-of-way would be required in various locations throughout the project area.

- Wild and Scenic Rivers: There are no wild and/or scenic rivers located within or adjacent to the proposed project; therefore, no further discussion is necessary.

2.1 Human Environment

2.1.1 Land Use

This section describes the current land uses and zoning for the project area and discusses potential direct and indirect land use impacts that could result from implementation of the proposed project. The section also examines the project's compatibility with adjacent land uses and consistency with applicable general plans and regional plans.

Regulatory Setting

The study area is located entirely within the City of San Juan Capistrano. East of and outside of the Project Limits is unincorporated Orange County. In the project vicinity, land uses are designated by the *City of San Juan Capistrano General Plan* to the north, south and west, and the *County of Orange General Plan* to the east.

Affected Environment

Existing and Future Land Uses

The project area is characterized primarily by residential land uses. Areas of non-residential land uses are dispersed throughout and are buffered by areas of open space. Throughout the project area, future developments are mainly residential and business. Table 2.1.1-1 identifies developments in the project vicinity that are currently under construction or have not yet been constructed.

Table 2.1.1-1
Developments in the Project Vicinity

Project Title	Project Description	Lead Agency	Project Status
Capistrano Unified School District (CUSD) Offices	Construction of government offices (125,000 gross square feet) at the southerly terminus of Valle Road from San Juan Creek Road.	CUSD	Complete
Pacifica San Juan-(SunCal)	Surrounding McCracken Hill and extending south to Camino Las Ramblas. Residential. 411 single-family and multi-family.	San Juan Capistrano	Under Construction
San Juan Meadows	La Novia Avenue. Residential. 196 single-family detached. 79 single-family attached. 165 multi-family units.	San Juan Capistrano	Approved; Not constructed
Serra Plaza	Del Obispo Street at Paseo Adelanto. Offices. 45,500 gross square feet.	San Juan Capistrano	Complete
Whispering Hills Estates Planned Community	Single-family dwelling units on the eastern edge of the city by La Pata Avenue.	San Juan Capistrano	Under Construction
San Juan Hills High School	West of La Pata Road (Antonio Parkway) and north of San Juan Creek Road. Public high school. 2,000 students.	CUSD	Under construction
Villa Montana Apartment Homes	10 acres of the Whispering Hills Estates site. 163-unit apartment development.	San Juan Capistrano	Under review
Junipero Serra Catholic High School	Junipero Serra Road and Camino Capistrano. Private high school. 2,200 students.	San Juan Capistrano	Complete

Table 2.1.1-1 (Continued)
Developments in the Project Vicinity

Project Title	Project Description	Lead Agency	Project Status
Honeyman Ranch: Rancho Madrina	Rancho Viejo Road. Residential estate homes. 119 single-family detached.	San Juan Capistrano	Under construction
Ortega Ranch Offices	Rancho Viejo Road and Ortega Highway. 11-building office complex. 1512,72 gross square feet	San Juan Capistrano	Complete
Mammoth Offices	Rancho Viejo Road at Via Escolar. 2-building office complex. 103,832 gross square feet.	San Juan Capistrano	Under Construction
Ortega Animal Hospital	Ortega Highway between Rancho Viejo Road and La Novia Avenue. Veterinary clinic and animal boarding. 7,767 gross square feet.	San Juan Capistrano	Complete
Reising Law Offices	Ortega Highway between Rancho Viejo Road and La Novia Avenue. Law offices. 5,963 gross square feet.	San Juan Capistrano	Under construction
Rancho Viejo Office Park	Rancho Viejo Road north of Spotted Bull Lane (East Side). 47 percent Medical Office, 53 percent Commercial Office. 67,720 gross square feet.	San Juan Capistrano	Under review
Valle Ranch	South terminus of Valle Road. Offices: 44,400 gross square feet	San Juan Capistrano	Complete
Belladonna Estates	Del Obispo Street. Residential-custom lots (31).	San Juan Capistrano	Approved, Not Constructed
St. Margaret's Episcopal School Master Plan	Ortega Highway and La Novia Avenue. Church: 18,455 gross square feet; Performing arts center: 450 seats Private school. 151 students.	San Juan Capistrano	Under review
M&M Petroleum	Ortega Highway and I-5 northbound on-ramp. Service station. 9 pumps; Convenience store. 5,940 gross square feet; Auto car wash.	San Juan Capistrano	Under review
Rancho Mission Viejo Plan	Rancho Mission Viejo (RMV) Planning Area (The Ranch Plan project) is a 9,254 hectares ha (22,850-acre) property immediately east of the cities of Mission Viejo and San Juan Capistrano in unincorporated Orange County. 14,000 dwelling units and 5.2 million square feet of retail and business uses on 5,848 gross acres; golf course uses on 25 gross acres, and open space on 16,942 acres Widening SR-74 from 2 lanes to 4 lanes within Planning Area 1	County of Orange	Approved project. Not constructed
Prima Deshecha Landfill	Increase disturbance area from 800 to 1,078 acres for landslide remediation features; redesign desilting system; supplement water supply in the Prima Deshecha Cañada stream channel; modify excavation phasing limits for landslide remediation.	County of Orange	Approved June 2007 by County.

Consistency with State, Regional, and Local Plans

1. City of San Juan Capistrano General Plan

In the immediate project area, the *City of San Juan Capistrano General Plan* designates land uses along SR-74 as residential. Within the limits of the project, traveling west to east, residences on the north side of SR-74 are designated Very Low Density; residences on the south side of SR-74 are designated Medium Low Density and Low Density. These residential designations are described in Table 2.1.1-2.

The Land Use Element of the *San Juan Capistrano General Plan* includes several related local plans and programs and is listed below:

- City of San Juan Capistrano Zoning Ordinance

  The Zoning Ordinance is the tool used to implement the Land Use Element. This Ordinance, along with the Zoning Map, identifies land uses within the City.

Table 2.1.1-2
Residential Land Use Designations

Designation	Expected Dwelling Units per Acre[a]	Development Types
Very Low Density	0–1	Single-family dwelling, accessory buildings, mobile and modular homes, second single-family dwelling, guest houses, and public facilities.
Low Density	Up to 2	Same as Very Low Density
Medium Low Density	Up to 3.5	Same as Very Low Density and schools, churches, and family day centers.

[a.] Maximum densities of land use designation may be exceeded to complement General Plan Housing Element policy in accordance with the density bonus provision of Section 65915 of the California Government Code
Source: *City of San Juan Capistrano Land Use Element.*

- Historic Town Center Master Plan

  Developed by the City in 1995, this Plan sets fourth goals and policies about how the *General Plan* should be implemented in the downtown area. The project site is not within the Historic Town Center.

- Los Rios Precise Plan

  This Plan was adopted in 1978 and outlines the specific planning needs of the Los Rios District. The project site is not within the Los Rios District.

- City of San Juan Capistrano Redevelopment Plan

  The Redevelopment Plan was prepared in 1994 and updated in 1997 and is one of the many tools used to implement the policies within the Land Use Element of the *General Plan*. The project is not within a redevelopment area.

Land Use Element

There are five major issues addressed in the goals, policies, and implementation actions of the *City of San Juan Capistrano General Plan Land Use Element*. The major issues are: 1) balancing land uses; 2) controlling and directing growth to maintain community character; 3) protecting open space; 4) promoting economic development; and 5) enhancing and preserving the character of existing neighborhoods. Each of these issues has one or more associated policies. Not all of the policies have the potential to be affected by the implementation of this project. Those that are applicable to the proposed project are listed below:

Policy 2.2: Assure that new development is consistent and compatible with the existing character of the City.

Policy 2.3: Ensure that development corresponds to the provision of public facilities and services.

Policy 5.1: Encourage the location and retention of businesses within the downtown Mission District.

Policy 7.1: Preserve and enhance the quality of San Juan Capistrano neighborhoods by avoiding or abating the intrusion of non-conforming buildings and uses.

Circulation Element

The *City of San Juan Capistrano Circulation Element* guides the continued development and improvement of the circulation system to support existing and planned development. The development of additional land in the future will increase the demand for local and regional roadway improvements and construction. The *Circulation Element* establishes acceptable roadway service levels and identifies improvements required to maintain the service levels. The use of other modes of transportation such as transit, walking, bicycling, and riding is promoted to reduce the demand for transportation system improvements and to improve air quality. The purpose of the *Circulation Element* is to provide a safe, efficient, and adequate circulation system for the City. The City designates SR-74 (within the study area) as a Primary arterial highway (4 lanes divided).

Applicable goals and policies are as follows:

Circulation Goal 1: Provide a system of roadways that meets the needs of the community.

Policy 1.1: Provide and maintain a City circulation system that is in balance with the land uses in San Juan Capistrano.

Policy 1.2: Implement the City's Master Plan of Streets and Highways.

Policy 1.3: Coordinate improvements to the City circulation system with other major transportation improvement programs.

Policy 1.4: Improve the San Juan Capistrano circulation system roadways in concert with land development to ensure sufficient levels of service.

Policy 1.5: Improve existing arterial system that serves regional circulation patterns in order to reduce local congestion (Ortega Highway at I-5).

Circulation Goal 3: Provide an extensive public bicycle, pedestrian, and equestrian trails network.

Policy 3.1: Provide and maintain an extensive trails network that supports bicycles, pedestrians, and horses and is coordinated with those networks of adjacent jurisdictions.

Circulation Goal 4: Minimize the conflict between the automobile, commercial vehicles, pedestrians, horses, and bicycles.

Policy 4.1: Provide sufficient right-of-way widths along roadways to incorporate features that buffer pedestrians, horses, and bicycles from vehicular traffic.

Policy 4.2: Provide traffic management improvements within areas where through traffic creates public safety problems.

Policy 4.3: Install additional street improvements within areas where necessary to improve vehicular and non-vehicular safety.

2. <u>County of Orange General Plan</u>

East of the Project Limits, the *County of Orange General Plan* designates land uses along SR-74 as Suburban Residential, Open Space, and Urban Activity Center as described below:

- *Suburban Residential*: This land use designation is characterized by a wide range of housing types, from estates on large lots to attached dwelling units such as town homes, condominiums, and clustered arrangements. Building intensity for Suburban Residential ranges from 0.5 to 18 dwelling units per acre.

- *Open Space*: This land use designation indicates the current and near-term use of the land. It is not necessarily an indication of a long-term commitment to open-space uses. Certain properties within the Open Space Category are committed, through public or private ownership, to remain as open space, but other properties, due to market pressures to serve a growing County population, may ultimately be developed in other ways.

- *Urban Activity Center*: This land use category identifies locations intended for high-intensity mixed-use development. Appropriate land uses include but are not limited to residential, commercial, and office uses; industrial parks and materials

recovery/recycling facilities; civic, cultural, and educational uses; and childcare facilities.

3. Natural Community Conservation Plan (NCCP)

The CDFG and USFWS created the NCCP program, a cooperative effort with numerous private and public partners to protect habitats and species. The program began in 1991 under the State's Natural Community Conservation Planning Act of 1991 (NCCP Act). The NCCP is broader in its orientation and objectives than both the California Endangered Species Act (CESA) and the Federal Endangered Species Act (FESA). The NCCP takes an ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP identifies and provides regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

The proposed Southern Subregion NCCP/MSAA/HCP and its associated EIR/EIS have been prepared by the County of Orange in cooperation with the CDFG and the USFWS in accordance with the provisions of the NCCP Act, CESA, FESA, and Section 1600 et seq. of the California Fish and Game Code. The proposed Southern Subregion NCCP/MSAA/HCP would provide for the conservation of designated state- and federally listed and unlisted species and the associated habitats that are currently found within the 132,000-acre NCCP/MSAA/HCP study area (southern subregion) that encompasses the project study area.

On October 24, 2006, the County of Orange Board of Supervisors certified the Final EIR for the NCCP/MSAA/HCP project. The USFWS distributed the Final EIS for public review on November 13, 2006. The Implementation Agreement (IA) was signed by the Participating Landowners (the County, RMV, and Santa Margarita Water District [SMWD]) in December 2006. The USFWS signed the IA, approved the HCP, and issued Incidental Take Permits (ITP) to each of the participating landowners on January 10, 2007. The Southern HCP assumes the Ranch Plan development. Coordination with CDFG on the NCCP/MSAA is ongoing.

4. Southern California Association of Governments (SCAG) Regional Plans

The SCAG is the Metropolitan Planning Organization (MPO) for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The region encompasses a population exceeding 15 million persons in an area of more than 38,000 square miles. As the designated MPO, the SCAG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. The leading activities SCAG undertakes that are applicable to this project include:

- Maintenance of a *continuous, comprehensive*, and *coordinated planning* process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program.

- Development of *demographic projections* plus the integrated land use, housing, employment, transportation programs, measures, and strategies portions of the South Coast Air Quality Management Plan, as well as serving as co-lead agency for *air quality planning* for the Central Coast and Southeast Desert air basin districts.

- Responsibility (under the Federal Clean Air Act) for determining conformity to the Air Plan of projects, plans, and programs.

SCAG has developed a number of plans to achieve the regional objectives. The most applicable is the Regional Comprehensive Plan and Guide (RCPG), which includes a Growth Management Chapter; the RTP; and the RTIP.

5. South Coast Air Quality Management Plan

The Federal Clean Air Act (CAA) Amendments of 1990 represent the cornerstone of the national air pollution control effort. Basic elements of the CAA include federal ambient air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. The CAA requires state air quality plans to provide for the implementation of all reasonably available control measures. In addition to meeting federal requirements, each air basin must

meet California Clean Air Act (CCAA) of 1988 requirements. The South Coast Air Quality Management District (SCAQMD) and SCAG jointly prepare the Air Quality Management Plan (AQMP) for the South Coast Air Basin (SCAB). The AQMP contains measures to meet state and federal requirements and is part of the State Implementation Plan (SIP). The AQMP is to be revised in 2007 and incorporate mandated measures to reduce traffic congestion and improve air quality.

Parks and Recreation Facilities

The parks and recreational facilities within the project vicinity consist of neighborhood parks, community parks, joint use parks, private parks and recreational facilities, community services and facilities, and a trail system.

The closest park to the SR-74 widening project area is Arroyo Park, a 3.6-acre (1.5-hectare) park, which is located approximately 0.3 mile (483 m) west of the project's westerly limit. The park is located at 31300 Sundance Drive. Due to the distance of the park from the closest project improvements, it would not be impacted by the proposed project either directly or indirectly.

The City has an extensive hiking, biking and equestrian trail network. Within the Project Limits, Class II bicycle lanes are provided on eastbound and westbound SR-74. Outside of, but parallel to, the Project Limits is a private equestrian trail on the north side of SR-74. The existing equestrian trails on the north side of SR-74 between the Hunt Club entrances will be maintained.

Impacts

No Build Alternative

The No Build Alternative does not include any construction components and thus is not anticipated to impact or change existing and/or future land use designations or policies, or conflict with the NCCP/MSAA/HCP program. It would not affect the regional growth projections adopted by SCAG. However, the project would not implement the improvements provided for in the RTP and RTIP, which in turn are part of the assumptions in the AQMP.

Long-term mobile emissions generated by vehicle trips would be greater under the No Build Alternative due to reduced traffic flow in the project area. The AQMP would need to be modified to address the loss of this planned improvement.

The No Build Alternative would be inconsistent with the *City of San Juan Capistrano General Plan* and the OCTA *Master Plan of Arterial Highways* (MPAH), which identify SR-74 as a four-lane roadway. The General Plan considers the approved land uses and regional traffic when designating the roadway classification to ensure compatibility between the *Land Use Element* and the *Circulation Element*.

Build Alternative

The proposed project is not anticipated to impact existing and/or future land use designations; be inconsistent with General Plan goals and policies; or conflict with the NCCP program, SCAG regional planning documents, or the AQMP. All these planning programs assume the widening of SR-74 to four lanes to accommodate the existing and future development in the region. The proposed project occurs within the Southern HCP. The proposed project does not traverse an area identified for preservation in the Southern HCP. It is anticipated that the County would implement conditions of the Southern HCP that are applicable to this project.

The project is consistent with the City's *Long-Range Roadway Improvements,* as included in the *General Plan Circulation Element*. The project is capacity enhancing and would accommodate traffic associated with planned future development.

Within the study area, the proposed project is consistent with local regional comprehensive plans and is in compliance with standards and/or guidelines for resource protection. Design features such as a glass sound wall and retaining wall design options would help maintain the community's aesthetic elements. The design of the sound walls and retaining walls would be based on input between the Department and the City of San Juan Capistrano so that the walls comply with City policies and address the concerns of the community.

The proposed minor partial property acquisitions would not result in significant impacts to the existing on-site uses. Slivers of ten parcels would be affected. Given the small percentage of the overall parcel being affected, the continuation of the existing uses would not be adversely

impacted. Regulations require fair market value be given for land and easements that are acquired by the Department for implementation of the project.

Avoidance, Minimization and/or Mitigation Measure

The No Build and Build Alternatives are not expected to result in permanent, temporary, direct, or indirect impacts to land use. Therefore, measures for avoidance, minimization, or compensation of land use impacts are not proposed.

2.1.2 Growth

Regulatory Setting

CEQA requires the analysis of a project's potential to induce growth and an analysis of cumulative impacts. CEQA Guidelines §15126.2(d) requires that environmental documents "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

Methodology

Growth inducement can be defined as the relationship between the proposed project and growth within the surrounding area. This relationship is often difficult to establish with any degree of precision and cannot be measured on a numerical scale because there are many social, economic, and political factors associated with the rate and location of development. To assess the growth-inducing impacts of the SR-74 widening project, the project's influence on either facilitating planned growth or inducing unplanned growth has been evaluated.

Typically, growth-inducing impacts result from the provision of urban services and extension of infrastructure (including roadways) into an undeveloped area. Growth-inducing impacts can also result from a substantial population increase if the new population may impose new burdens on existing community service facilities (such as increasing the demand for service and utilities infrastructure and creating the need to expand or extend services), which may induce further growth. On the other hand, a project can remove infrastructure constraints, provide access, or eliminate other constraints on development and thereby encourage growth that has already been

approved and anticipated through the General Plan process. This planned growth would be reflected in land use plans that have been developed and approved with the underlying assumption that an adequate supporting infrastructure would be ultimately constructed. This can be described as accommodating or facilitating growth. For this document, the term "inducing" will be used for both types of growth.

Growth-inducing impacts may be categorized as either direct or indirect. Direct growth-inducing impacts occur when a project directly fosters growth. This may occur in a variety of ways including, but not limited to, the construction of new homes and businesses and the extension of urban services to previously undeveloped areas. Growth can also be induced directly due to the economic effect of a project whereby economic growth multiplier effects can cause related growth in areas near the new project. Indirect growth is induced by the demand for housing, goods, and services associated with a project.

To assess the project's influence on growth in the region, the Department reviewed historical and projected growth trends within and surrounding the project study area. Though outside the immediate project study area, growth trends in Riverside County were also considered since SR-74 extends eastwardly into Riverside County. This information on growth trends provides an understanding of historic growth in the region and the planned growth which local and regional planning agencies are anticipating for the project study area. Information in this section is generally based on data from the *County of Orange General Plan* (2004); the *County of Riverside General Plan* (2003); SCAG, including their Regional Housing Needs Assessment (2000); and the Center for Demographic Research (CDR) at California State University, Fullerton (CSUF).

Background

SCAG is a Joint Powers Agency established under California Government Code §6502 *et seq*. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO) for the six counties in southern California, including Orange, Los Angeles, Ventura, San Bernardino, Riverside, and Imperial Counties. The region encompasses a population exceeding 15 million persons in an area of more than 38,000 square miles.

The Orange County MPO obtains its census data and projections from the CDR. CDR is governed and supported by the following sponsor agencies: County of Orange, League of Cities, Orange County Sanitation District, Orange County Transportation Authority, Transportation Corridor Agencies, Municipal Water District of Orange County, Orange County Water District, and CSUF. The goal of the CDR is to provide accurate and timely information regarding population, housing, and employment characteristics for Orange County that will be used for local and regional planning efforts.

Existing and projected population, housing, and employment data for the study area is based on Orange County Projections–2004[1] (OCP-2004) (CDR 2004). CDR developed the OCP-2004 for incorporation into the SCAG's growth forecast for the 2006 RTP and the SCAQMD Air Quality Management Plan (AQMP) (SCAG 2004; SCAQMD 2003). These projections are recognized by the agencies that sponsor the CDR as the uniform data set for use in local planning applications. The OCP-2004 population projections were developed by using a multistage process that combined several procedures and methodologies into a "top down" and "bottom up" process. Generally, total population, housing, and employment were projected and then allocated to smaller geographic areas based on an analysis of local policy, land use capacity, demographic changes, and assumed market focus. Small area projections were developed and these were reviewed by local jurisdictions; adjustments were then made based on local jurisdictions' input where warranted.

Historic and Projected Growth Trends

Orange County

Orange County has experienced significant growth in population over the past 55 years. Population in the County has increased from 216,200 in 1950 to almost 2,846,300 in 2005. Concurrent with these substantial population increases, the economic character of Orange County has dramatically changed over the past 50 years. The predominately rural/agricultural and residential economy of the 1950s has changed to include a well-diversified commercial/industrial economy. Aviation/aerospace and other technology industries, biomedical facilities, retail commercial, light manufacturing, administrative and financial services, and tourism have become major components of the economy.

In 1965, the employment-to-population ratio was 22 percent in Orange County. By 1980, the ratio increased to 40 percent. This has subsequently increased to approximately 53 percent in 2000. Not only has the proportion of jobs to residents increased, but it is also based on a dramatically larger population. Future population is projected from assumptions regarding three major events: births, deaths, and migration. Historically, the growth in Orange County was predominately due to migration; however, now births contribute to more residents. This trend is expected to continue.

The proposed project is located within the City of San Juan Capistrano. Based on the *2006 Orange County Progress Report* (CDR 2006), the City of San Juan Capistrano has experienced a substantial increase in population over the past three decades; however, there has only been a gradual increase since 1995. The population has increased almost tenfold since 1970, but has only increased 2 percent annually (at most) since 1995. The OCP-2004 projections anticipate this lower growth rate through 2030. These numbers reflect the fact that much of the City of San Juan Capistrano is developed.

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[1] The OCP-2004 database was the most current at the time the preparation of this document was initiated. A revision to the Orange County socioeconomic projections was processed in 2006. The OCP-2006 projections reflect the same assumptions for the immediate project area, but incorporate the approved Ranch Plan. Per the Center for Demographic Research, SCAG has used the OCP-2006 in the *Regional Housing Needs Assessment* and indicated they intend to use the OCP-2006 projections in the RTP and Air Quality Management Plan, but they have not published new data with the OCP-2006 projections yet (e-mail, Deborah S. Diep, May 9, 2007).

The area immediately served by SR-74 within the City of San Juan Capistrano is generally built out. However, land to the east in unincorporated Orange County is primarily undeveloped. This area, known as the Ranch Plan area, was approved in November 2004 for 14,000 residential units and 5.2 million square feet of employment uses. This level of development is approximately 34 percent lower than what was assumed in OCP-2004 for the Ranch Plan area. Development is expected to occur over the next 20 years. With the exception of the Ranch Plan area, the majority of the land within the Regional Statistical Area[2] is presently developed or designated for recreation or open space. This remaining land is generally vacant undevelopable land. Undevelopable lands are not available for development for physical, public policy, or environmental reasons.

Riverside County

According to SCAG, southern California has been growing eastward and is projected to continue to grow toward fringe areas (2001). Riverside County has been a main recipient of this growth trend. The population in Riverside County increased from 660,000 in 1980 to 1.5 million in 2000 according to the U.S. Census Bureau (2000). By 2025, Riverside County's population is expected to be 2.84 million. With the increase in residential real estate prices in Orange County, Riverside County has become more attractive for many new homebuyers. Many people have moved from Los Angeles and Orange Counties to Riverside County for its lower housing costs. The new residential real estate business has been booming in Riverside County due to the demand for new housing, and the previous growth trend is projected to continue. Total employment in Riverside County is projected to increase from 446,000 jobs in 1997 to over 1 million jobs in 2025, a 4.4 percent increase annually. This compares to the five percent annual growth rate that occurred in the Riverside-San Bernardino Standard Metropolitan Statistical Area (SMSA) during the 1972 to 1999 period.

For land use and policy analysis, Riverside County is divided into 19 area plans. The easterly extension of SR-74 traverses the Elsinore Area Plan, which includes the cities of Lake Elsinore

[2] For regional planning efforts, Orange County has been divided into ten Regional Statistical Areas (RSA), which are combinations of census tracts designated by SCAG. The project site is located in RSA C-43, which includes portions or all of the cities of Lake Forest, Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, and San Clemente, as well as the unincorporated communities of Ladera Ranch, Las Flores, Coto de Caza, and the Ranch Plan.

and Canyon Lake, as well as the unincorporated areas of El Cariso, Alberhill, Sedeco Hills, Wildomar, Gavilan Hills, and Meadowbrook. The City of Riverside's Sphere of Influence extends into the Elsinore Area Plan. The Cleveland National Forest forms the western boundary of the area. The *Riverside County Population and Employment Forecasts*[3] (Hoffman, 2000), prepared for the *Riverside County General Plan Update* (County of Riverside, 2002) provides population, household,[4] and employment projections through the year 2020. The Elsinore Area Plan is projected to increase from 34,455 in 1994 to 72,067 in 2020, a 109.2 percent increase in population. Countywide, the population is projected to increase from 1,545,387 in 2000 to 2,874,277 in 2020, an increase of 86.0 percent. The Elsinore Area Plan has large amounts of vacant land within both incorporated and unincorporated areas. Of the 126,307 acres within the Elsinore Area Plan, almost 67 percent, or 84,412 acres, is designated by the *Riverside County General Plan* for open space or rural uses. Approximately 11 percent, or 13,672 acres, are designated for community development.

Impacts

No Build Alternative

The No Build Alternative would not have an impact on growth-inducing factors.

Build Alternative

Population and economic growth in the study area is directed by the general plans for the County of Orange and adjacent cities in the study area. The County of Orange and City of San Juan Capistrano General Plans, as well as the OCTA MPAH reflect SR-74 as a four-lane divided highway from I-5 east to the Orange/Riverside County border. In addition, the South County Roadway Improvement Program (SCRIP) fee program, adopted by the County of Orange,

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[3] The *Riverside County Population and Employment Forecasts* presents three sets of countywide projections, in order to test alternative scenarios for the Riverside County General Plan update. These projects are based in whole or in part on recent SCAG projections, Western Riverside Council of Governments (WRCOG), and Coachella Valley Association of Governments (CVAG) projections and employment trend analysis. The projections presented in this section are for Scenario 1, which uses SCAG population and employment projections.

[4] The *Riverside County Population and Employment Forecasts* do not provide projections of the number of housing units; rather, projections of the number of households are provided. According to the U.S. Census Bureau, "a household includes all of the people who occupy a housing unit" and a housing unit is "a house, an apartment, a mobile home, a group of rooms, or a single room…occupied as separate living quarters."

identifies traffic-calming measures and the proposed widening of SR-74 as part of the long-term transportation improvements for the area. Therefore, the project is consistent with the previously adopted MPAH and SCRIP.

To assess potential growth-inducing impacts of the SR-74 widening, the development status of surrounding land was evaluated. The area was divided into three major categories: 1) existing land uses; 2) planned land uses; and 3) unplanned lands. Existing land uses are those areas that are developed or dedicated as urban open space/recreational, public facilities, or transportation uses. Planned land uses are undeveloped areas that are designated for urban development in general plans and have a zoning designation for specific urban uses. These areas may also have entitlement through either an approved specific plan or tentative tract map. Unplanned land areas are those lands that are not designated for urban uses or permanent open space, but are designated with land uses that could be considered transitional or holding designations (e.g., agricultural). Overall, the potential for growth-inducing impacts would be the greatest on the unplanned land uses.

The proposed SR-74 widening from Calle Entradero east to the City of San Juan Capistrano/County border would not have any growth-inducing effect in the immediate area because the adjacent land is built out with and/or entitled for suburban, mostly single-family residential uses. The nature of this development, as well as the limited improvements proposed on SR-74, would limit the feasibility of large-scale redevelopment of the area adjacent to the roadway. The existing residential uses along SR-74 are predominately “back-on” or side facing to the roadway. As a result, the proposed project would not affect the viability or cohesiveness of any residential neighborhoods. The roadway improvements would not result in a pressure to transition the neighborhood to non-residential or intensified residential uses.

Immediately east of the City/County border, development in unincorporated Orange County is approved as part of the Ranch Plan. Widening of SR-74 would serve this planned growth. However, the proposed SR-74 roadway improvements would not be considered growth-inducing for the following reasons:

- The proposed SR-74 improvements would not provide capacity beyond what is needed to serve the existing and approved development; therefore, it would encourage intensification of uses.

- Growth on the Ranch Plan property would not be able to exceed the level already approved by the County of Orange because restrictions associated with the Ranch Plan approvals limit the amount of overall development. This has been established through provisions of the General Plan, zoning, and a court-approved settlement agreement. Infrastructure to serve the Ranch Plan development will be provided as part of the land development project and the impacts of the required infrastructure improvements have been addressed as part the environmental documentation for the Ranch Plan.

- The actions taken by the Ranch Plan landowner and the County of Orange to approve development adjacent to the proposed SR-74 improvements were done independently of the proposed project.

Land in Orange County beyond the Ranch Plan boundaries is comprised of either development or it is in public ownership and would not be available for development. Public lands include the Caspers Wilderness Park (owned by the County of Orange) and the Cleveland National Forest. There are only limited opportunities for other in-fill development elsewhere in San Juan Capistrano and the surrounding area. Not only would the in-fill opportunities not result in substantial development, the proposed improvements to SR-74 would not measurably influence the decision to develop these areas. Other factors, such as economic and social demands, would have greater influence on development.

The proposed SR-74 improvements would also not influence development in western Riverside County. SR-74 is currently used for commuting to and from southern Orange and Riverside Counties. SR-74 is near capacity during commute hours. The proposed improvements will provide continuity of four lanes as the road to the west currently has four lanes and the road to the east will have four lanes upon completion of RMV's Ranch Plan approved development project.

Avoidance, Minimization and/or Mitigation Measures

The No Build and Build Alternatives are not expected to cause growth-inducing impacts. Therefore, measures for avoidance, minimization, or mitigation are not proposed.

2.1.3 Community Impacts

Community Character and Cohesion

Regulatory Setting

Under CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

A community is defined as a population rooted in one place, where the daily life of each member involves contact with and dependence on other members. Community cohesion, as defined by *California Department of Transportation Environmental Handbook* (Volume 4), is the degree to which residents have a sense of belonging to their neighborhood; their level of commitment to the community; or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Generally, cohesive communities are associated with specific social characteristics, which may include long tenure of residency, ethnic homogeneity, high levels of community activity, and shared goals.

Community characteristics and elements of community cohesion include: population and housing, economic conditions, and community facilities and services. Land use and development patterns provide the physical setting of the community. Population and housing describe the population (e.g., population estimates, growth, demographics, and transportation choices) and housing types (e.g., single-family residences, multi-family residences, mobile homes). The economic aspect of a community encompasses the business activity (e.g., agriculture, manufacturing, services), employment, income, and tax base. Lastly, school districts, public

parks, recreation centers, and police and fire departments fall under the category of community facilities and services. More information on land use, development, parks, and recreation facilities may be found in Section 2.1.1, Land Use.

Affected Environment

In the project area, the primary land uses are residential, open space, and agricultural. An area extending roughly 0.5 mile (0.8 km) on either side of the SR-74 project area was used for the community impacts analysis. The study area includes Census Tracts (CT) 320.23 and 320.52. (See Figure 7 – Census Tracts within the Project Study Area and Figure 8 – Community Impacts Study Area.)

Data on demographics, current and forecasted population, ethnic distribution, and housing in the study area were obtained from the City of San Juan Capistrano website, the San Juan Capistrano Chamber of Commerce, the 2000 U.S. Census, and 2004 Orange County Projections (OCP-2004).

A. Population and Housing

As shown in Table 2.1.3-1, between 1990 and 2000, San Juan Capistrano shows nearly a 30 percent (roughly 2 percent per year) increase in population growth. OCP-2004 population estimates (through the year 2025) for Orange County and San Juan Capistrano show that projected populations are expected to progressively increase through 2025, though at approximately the same rate. For the two census tracts within the project study area for population and housing, population is expected to increase by approximately 77 percent between 2000 and 2025.

Figure 7
Census Tracts within the Project Study Area

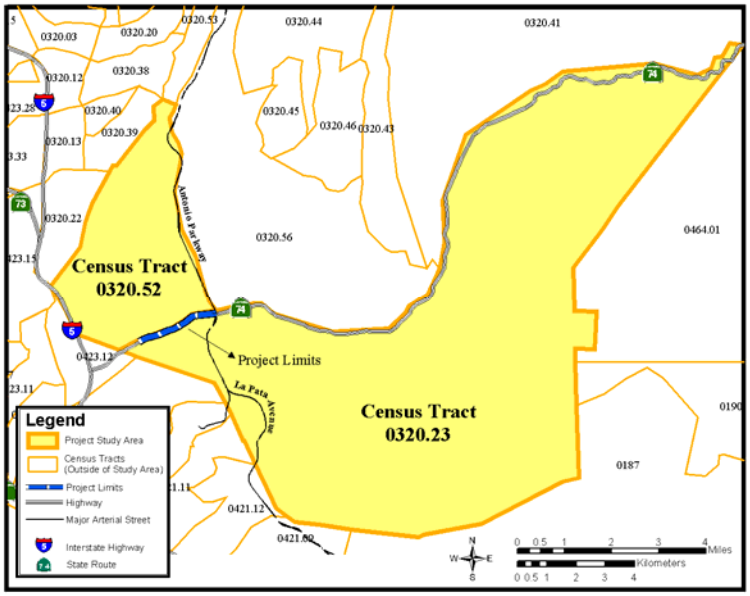


Figure 8
Community Impacts Study Area

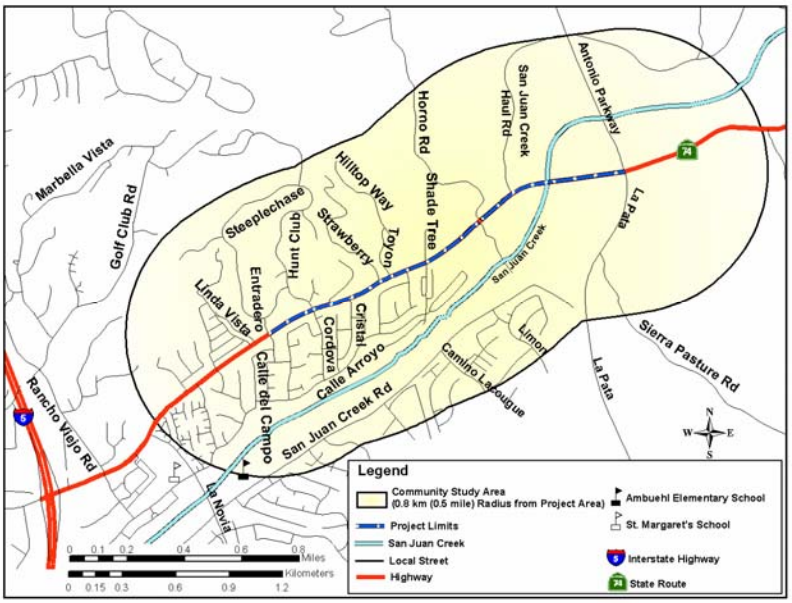


Table 2.1.3-1
Population Estimates

Area	1990	2000	2025	Percent Change per year (1990 - 2000)	Projected Percent Change per Year (2000 – 2025)
Orange County	2,410,556	2,846,289	3,537,559	1.81%	2.4%
San Juan Capistrano	26,183	33,826	42,289	2.92%	2.5%
Study Area	**	6086	52,945	**	77.0%
CT 320.23	**	2738	34,047	**	114.3%
CT 320.52	**	3348	18,898	**	46.4%

CT: Census Tract
** The delineation and numbering of Census Tracts (CT) changed from 1990 and 2000 Census. No comparable 1990 population numbers for Census Tracts 320.23 and 320.52 were available, and therefore, percent change between 1990 and 2000 for the study area could not be calculated.
Sources: *1990 & 2000 U.S. Census of Population and Housing; OCP 2004.*

Table 2.1.3-2 shows that the study area (Census Tracts 320.23 and 320.52) has 1,994 households. The average number of persons per household is approximately three for Orange County, San Juan Capistrano, and the study area. In the 1990 Census, San Juan Capistrano had increased to about 2.89 persons per household. In San Juan Capistrano, the average household size as of 2000 was 3.06. The City shows an increase in the household size, which parallels the increase in population.

Table 2.1.3-2
Number of Households and
Average Number of Persons per Household

Area	Number of Households	Average Number of Persons per Household
Orange County	935,287	3.00
San Juan Capistrano	10,930	3.06
Study Area	**1,994**	**3.09**
CT 320.23	816	3.35
CT 320.52	1,178	2.82

CT: Census Tract
Source: Census 2000.

As shown in Table 2.1.3-3, the City of San Juan Capistrano is predominantly of Caucasian (78.5 percent) and Hispanic origin (33 percent). For the study area (a subset of the City of San Juan Capistrano), the population was predominantly non-Hispanic white (92.3 percent) and Hispanic origin (9.05 percent). The total minority population in the study area is 14.4 percent.

Table 2.1.3-3
2000 Race/Ethnic Distribution in the Study Area

Jurisdiction	% NH White	% NH Black	% NH American Indian	% NH Asian	% NaH and OPI	% NH Other	% Hispanic Origin Of Any Race
Orange County	64.8	1.7	0.7	13.6	0.3	14.8	30.8
San Juan Capistrano	78.5	0.8	1.1	1.9	0.1	14.2	33.1
Study Area	**92.3**	**0.3**	**0.35**	**2.9**	**0.1**	**1.9**	**9.05**
CT 320.23	91.8	0.3	0.5	2.1	0.1	2.9	11.6
CT 320.52	92.7	0.3	0.2	3.6	0.2	1.1	6.9

CT: Census Tract; NH: Non-Hispanic; NaH: Native Hawaiian; OPI: Other Pacific Islander
Note: Percentages do not add to 100 because the White, Black, American Indian, and Alaskan Native, Hawaiian, and Pacific Islander, and other categories involve persons identified with one race. Only overlaps with the Hispanic Category).
Source: *2000 U.S. Census of Population and Housing.*

As shown in Table 2.1.3-4, according to the 2000 Census, nearly 60 percent of the population within the study area was between 20 and 64 years of age, about 31 percent is less than 19 years of age, and less than 10 percent is over 65 years old.

Table 2.1.3-4
2000 Age Distribution In The Study Area

Area	Median Age	Less than 19 years old		20–45 years old		45–64 years old		Greater than 65 years old	
		Number	%	Number	%	Number	%	Number	%
Study Area	41	1,898	31.3	1,593	26.3	2,009	33.1	9	9.32
CT 320.23	37	985	36.0	776	28.4	816	29.8	158	5.78
CT 320.52	44	913	15.1	817	13.5	1,193	19.7	407	6.71

CT: Census Tract
Source: *2000 Census.*

SR-74 and I-5 are the two major transportation corridors serving the project area. The average commute time for people living in San Juan Capistrano is roughly 25 minutes. As shown in Table 2.1.3-5, approximately 93 percent either traveled alone or carpooled by car, truck, or van; about 1 percent indicated use of public transit; while less than 1 percent either walked or used other means of transportation.

Table 2.1.3-5
2000 Mode Choices for the Work Commute in the Study Area

Area	Car, Truck, or Van – Alone		Carpool		Public Transportation		Walk		Other Transportation	
	Number	%	Number	%	Number	%	Number	%	Number	%
Study Area	**2,248**	**85.2**	**214**	**8.11**	**30**	**1.14**	**18**	**0.68**	**15**	**0.57**
CT 320.23	1,054	84.9	111	8.9	10	0.8	8	0.6	15	1.2
CT 320.52	1,194	85.5	103	7.4	20	1.4	10	0.7	0	0

CT: Census Tract
Source: *2000 Census.*

Table 2.1.3-6 shows that 88 percent of households in the study area live in either attached or detached single-family homes while nearly 3 percent live in multi-family homes. Approximately ten percent live in mobile homes or other type of housing. However, no mobile homes are directly adjacent to the project site.

Table 2.1.3-6
Summary of Housing in the Study Area

Area	Single Family Residences[a]		Multi-Family Residences		Mobile Homes		Other (Boats, RVs, etc.)	
	Number	%	Number	%	Number	%	Number	%
Study Area	**1,869**	**88.0**	**44**	**2.7**	**208**	**9.8**	**2**	**0.09**
CT 320.23	846	98.3	0	0.0	13	1.5	2	0.20
CT 320.52	1,023	81.1	44	3.5	195	15.5	0	0.00

CT: Census Tract
[a.] Single-family Residences may be attached or detached homes.
Source: *2000 Census.*

B. Economics

Orange County has a wide range of economic generators, including industry, agriculture, tourism, and commercial operations. According to the San Juan Capistrano Chamber of Commerce, the City of San Juan Capistrano has approximately 2,000 businesses that employ 8,800 people. The top five employers for the City of San Juan Capistrano are: Fluid Master, Inc.; Endevco; the Brown Bag Sandwich Company; Costco Wholesale; and St. Margaret's of Scotland School.

According to the California Employment Development Department's (CEDD) *Labor Force Data for Sub-County Areas (April 2004)*, the 2004 civilian labor force for Orange County is 1,581,300. The CEDD indicates that over the next ten years Orange County's

employment is projected to grow by 23 percent. Based on the 2000 Census, with a labor force of 16,140 people, San Juan Capistrano has a lower unemployment rate (2.5 percent) than the County as a whole (3.3 percent). The study area has an unemployment rate of 2.06, which is slightly less than the City. Nearly three-fourths of employed individuals in Census Tracts 320.23 and 320.52 hold managerial, professional, sales, or office occupations.

As shown in Table 2.1.3-7, the 2000 Census indicates that the median household income for San Juan Capistrano is $62,392. At $108,395, the median income for the study area is substantially higher than that of San Juan Capistrano and Orange County. About 5 percent of the households in the study area are at or below the poverty line ($14,999 to represent the poverty line). As compared to Orange County or the City of San Juan Capistrano, the study area contains a lower percentage of households at or below the poverty line.

Table 2.1.3-7
2000 Household Incomes in the Study Area

Area	Median Household Income	%Households <$14,999[a] Income	%Households $14,999 to $34,999	%Households $35,000 to $74,999	%Households >$75,000 Income
Orange County	$58,820	8.7%	18.5%	35.3%	37.4%
San Juan Capistrano	$62,392	7.2%	17.7%	34.5%	40.6%
Study Area	$108,395	4.7%	4.75%	15.3%	66.3%
CT 320.23	$102,068	1.96%	6.61%	22.3%	62.4%
CT 320.52	$114,721	6.63%	3.45%	10.3%	69.0%

CT: Census Tract
[a]. Incomes below $14,999 were used to represent the percent of households below the poverty line.
Source: *2000 Census.*

C. Community Facilities and Services

Community facilities and services (i.e., schools, libraries, community centers, and community corridors) are discussed in this section as they pertain to community character and cohesion.

The project site is within the service boundaries of the Capistrano Unified School District. There are no adult education centers, public intermediate or high schools within approximately 0.5 mile (0.8 km) of the study area. However, San Juan Hills High School, located near the end of San Juan Creek Road off La Pata Avenue, will open in September 2007. Harold J. Ambuehl Elementary School for kindergarten through fifth grades (28001 San Juan Creek Road, San Juan Capistrano, CA 92675) is the closest public school to the project area. St. Margaret's Episcopal School (31641 La Novia Avenue San Juan Capistrano, CA 92675) is the closest private school to the project area. However, neither is within a 0.5 mile (0.8 km) radius of the limits of the study area.

There are no public libraries, community centers, police departments, fire stations, or post offices are located within 0.5 mile (0.8 km) of the project site. Utilities such as gas, water, sewer, telephone, and electric are present within the Project Limits and some may be relocated within the Project Limits.

The proposed project involves the removal of the sidewalk on the north side of SR-74 from Calle Entradero to Via Cordova to accommodate the widening of the facility from two to four lanes. A new sidewalk on the south side would be constructed just east of Avenida Siega and would connect to the County sidewalk system to provide continuity. A pedestrian count was conducted in early 2000 to determine the need for retaining the existing sidewalk on the north side of SR-74.

Impacts

This section examines the potential for impacts to community cohesion. Impacts to community cohesion relate to changes in the land use, neighborhoods, visual, economic, or community facilities and services. Changes in the visual impacts and noise are discussed in Sections 2.1.5 and 2.2.6, respectively.

A. Population and Housing

No Build Alternative

The No Build Alternative would not affect population and housing. The No Build Alternative does not increase or decrease population or housing, change its distribution, affect the household types found in the area, or affect mode choices by the population.

Build Alternative

The Build Alternative would not affect population or housing figures for the area in relation to growth, composition, or demographic. The project would not allow for increased development beyond what is already planned or approved nor would it affect the type of housing built in the area. The proposed project would improve the traffic conditions in the area to accommodate for the planned and approved growth and development.

B. Economics

The potential for economic impacts was determined as follows:

- Employment effects due to construction of proposed infrastructure improvements and business displacements were considered for each alternative.
- Local tax revenue effects are attributed predominantly to residential and non-residential displacements.

No Build Alternative

The No Build Alternative would result in increased traffic delays. The purpose of the project is to accommodate traffic associated with existing and future planned development. Employment and tax revenue could be adversely affected due to such delays for commuters and consumers. The delay in the movement of goods and services can result in increased costs to businesses and are often passed on to the consumer. The No Build Alternative does not include any residential or non-residential displacements or capital improvements.

Build Alternative

Since the Build Alternative does not displace any businesses, no loss of employment, loss of tax revenue, or reduction in income level is expected. The Build Alternative would have a short-term beneficial effect on employment by generating direct and indirect employment opportunities. Direct temporary employment involves jobs directly created by highway construction activity. These jobs include all on-site laborers, specialists, engineers, and managers involved with the highway improvement project. Indirect jobs are workers in industries, which supply highway construction manufacturers with materials and off-site construction industry workers such as administrative, clerical and managerial workers. Expenditures by these workers on various goods and services stimulate demand for additional employees in many industries, resulting in employment being supported throughout the general economy.

The Build Alternative would not have a substantial impact on tax revenue because the project would not result in any residential or non-residential displacements, and property owners would be compensated for property acquisition. The amount of tax revenue lost from the small number of sliver takes would not substantially alter the tax base.

C. Community Facilities and Services

No Build Alternative

The No Build Alternative would not affect community facilities or services. It would not result in any removal or change of access to facilities or services, nor would it create new demand for community services since no capital improvements are included with this alternative.

Build Alternative

Since schools are greater than 0.5 mile (0.8 km) away from the project area, no direct or indirect impacts to schools would be expected. No fire or police stations, community centers, or other public facilities are located within the Project Limits. During construction (short term), response times for the California Highway Patrol and the Fire

Department may be slightly reduced. However, in the long term there would be a benefit as a result of the roadway improvements and reduced congestion. All utilities such as power, gas, sewer, and telephone lines impacted by this project would be relocated or replaced in-kind within the Project Limits.

The project would necessitate the removal of 1,056 ft. (322 m) of sidewalk on the north side of SR-74 from Calle Entradero and Via Cordova. This would not constitute a negative impact on community cohesion from a pedestrian movement perspective due to its limited usage as per the study conducted in early 2000. The San Juan Capistrano City Council concurred with this concept at the May 30, 2006, meeting. The pedestrian study and field observation indicated an extremely low demand to warrant a signal light as a means for providing a safe crossing. The pedestrian count also did not warrant the need to keep the existing sidewalk on the north side. During project design, the optimal location for pedestrian crosswalk would be determined. This would facilitate access to the existing sidewalk on the south side of the street. This facility would allow a pedestrian-safe pathway through this portion of the project area and would connect to the County system.

As a design option to the proposed project, the sidewalk on the north side of SR-74 between Calle Entradero and Via Cordova would be reconstructed. Under the design option, this existing meandering sidewalk would be reconstructed as a straight sidewalk (not curvilinear) within the existing public right-of-way. There would be approximately 12 ft. of public land remaining on the north side behind the proposed back of curb. However, a short retaining wall would be required along the existing limit of the public right-of-way, which is delineated by the southern edge of the existing equestrian trail. With this variation, most, if not all, trees within this section of the roadway would be removed as a part of construction.

Additionally, in the future, should the need for a signal/pedestrian crossing arise, the current design would not preclude the opportunity to install such a facility. Please refer to Section 2.1.4 for more information about this topic.

Other modifications to the pedestrian system would include the realignment of the south sidewalk at the intersection of Via Cordova. In this location, the sidewalk would be

shifted to the south and reconstructed to provide for the right-turn pocket at this intersection. This would be short-term in nature and for a limited length. Impacts associated with this inconvenience would be nominal. A new sidewalk would be constructed east of Avenida Siega and would connect to the County sidewalk system to provide continuity. This would be a beneficial effect of the project.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build and Build Alternatives are not expected to result in permanent, temporary, direct, or indirect impacts. However, the project would require approximately ten sliver takes.

Build Alternative

- Property owners would be compensated for fair market value and damages for property acquisition.

2.1.4 Traffic and Circulation

This section discusses the impacts of the proposed SR-74 widening project on traffic and circulation, both during construction (temporary impacts) and after completion of the project (long-term impacts) within the City of San Juan Capistrano limits including the five unsignalized intersections within the Project Limits. This analysis is based on two traffic studies, prepared in November 2006 and June 2007, by Austin-Foust Associates, Inc.

The entire length of SR-74 that would be widened is currently a two-lane section (see Figure 4 in Chapter 1). The widening of SR-74 from the City/County limits to east of the La Pata Avenue/Antonio Parkway intersection, which is within unincorporated Orange County, has already been evaluated and approved in three environmental documents prepared by the County of Orange for the Ranch Plan (see Section 1.2, Project Background). Therefore, this section of the Initial Study only discusses traffic impacts within the City limits only, which is the proposed project from Calle Entradero to the City/County line.

Figure 4 − Project Footprint Map (Chapter 1), shows the proposed project area for the purpose of this analysis. The improvements would include widening of SR-74 from two lanes to four 12-ft. (3.6-m) through traffic lanes with a 12-ft. (3.6-m) painted median, and a 5-ft.-wide (1.5-m) paved shoulder on each side of the roadway to accommodate a Class II bicycle facility. The sidewalk on the north side of SR-74 between Calle Entradero and Via Cordova would be eliminated. The sidewalk on the south side will remain, which currently terminates at Avenida Siega.

At the unsignalized intersections, a 12-ft. (3.6-m) left-turn lane would be provided to allow for U-turn movement. Such provision would facilitate movement of vehicles that are exiting the minor streets and intending to turn left onto westbound SR-74. Due to the lack of gaps in SR-74 through traffic, such vehicles exiting the minor streets may turn right on SR-74 and complete a U-turn at the next available intersection in lieu of turning left against both directions of traffic. Exclusive right-turn lanes would be provided in the eastbound direction at the Via Cordova and Via Cristal intersections.

Within the Project Limits, there are no existing signalized intersections and none are proposed. Therefore, unsignalized intersections in the project area are being analyzed to ensure that they would operate at an acceptable level of service under the year 2030 scenario. Traffic counts were taken for the three of the five unsignalized intersections within the Project Limits: Via Cordova, Via Cristal, and Avenida Siega. The traffic counts were taken in late 2003 and were projected to Year 2005 for the traffic study analysis. Via Errecarte and Calle Entradero were not included in this analysis since these two intersections have similar characteristics and volumes as the aforementioned three selected intersections.

Long-range (2030) traffic volumes for this area were produced using the Ranch Plan Traffic Model (RPTM). This is a fine-grained model derived from the South Orange County Sub-Area Model (SCSAM). It preserves the trip distribution characteristics of the SCSAM parent model while enabling a greater level of detail to be used in preparing traffic forecasts. A discussion of the assumptions used in SCSAM for producing the 2030 volumes can be found in the technical reports prepared by Austin-Foust Associates, Inc.

Regulatory Setting

The Department directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of highway projects. The special needs of the elderly and the disabled must be considered including pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

The Department is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

The proposed project is compatible with the Circulation Element of the *City of San Juan Capistrano General Plan* as well as the Transportation Element of the *Orange County General Plan*.

Affected Environment

Roadway System

The existing roadway configuration and traffic conditions of the Lower SR-74 are described in detail in Section 1.3.1 of this IS and are summarized in this subsection. The SR-74 extends from I-5 in San Juan Capistrano northeast to Riverside County where it intersects I-15. It then extends further northeast towards Palm Desert in Riverside County. The existing SR-74 consists of four through lanes from I-5 to approximately 330 feet (100 m) east of Calle Entradero. It transitions to two through lanes east of Via Cordova to west of Avenida Siega.

SR-74 is part of the State Freeway and Expressway system. It provides interregional access between the employment centers of south Orange County and the residential centers of Riverside County. The highway also carries a high traffic volume of trucks with two axles or more during the weekday and recreational travelers on the weekend.

There are no high occupancy vehicle lanes, on-street parking spaces, or bicycle facilities within Project Limits. No other modes of transportation exist or are proposed in the near future. In addition, the SR-74 is not being used for regular transit services by the Orange County Transportation Authority (OCTA) or the Riverside Transit Agency (RTA).

Traffic volume is usually discussed in terms of average daily traffic (ADT) and/or intersection capacity utilization (ICU). The ability of a highway to accommodate traffic is typically measured in terms of Level of Service (LOS). LOS is based on the ratio of traffic volume to the design capacity of the facility. LOS is expressed as a range from LOS A (free traffic flow with low volumes and high speeds resulting in low densities) to LOS F (traffic volumes exceed capacity and result in forced flow operations at low speeds resulting in high densities). Pictorial representations of the six levels of service for two-lane (existing and no build condition) and multi-lane (proposed project) highways based on the 2000 Highway Capacity Manual are provided in Chapter 1 (see Figures 2 and 3).

Traffic Conditions at Mainline and Intersections

The existing Average Daily Traffic (ADT) and Peak Hour Volumes within the Project Limits on the SR-74 (both directions) are 24,000 and 2,360 vehicles, respectively, for the year 2005. Truck traffic is estimated to be 8 percent of the total traffic (i.e., 1,900 vehicles per day based on actual truck counts taken in 2005). Worksheets for ICU calculations and synchronization summaries for 2005 are discussed in the original and supplemental technical reports prepared in November 2006 and June 2007, respectively, by Austin-Foust Associates, Inc.

As can be seen from Table 2.1.4-1 (Mainline LOS Summary), the project area has peak-hour traffic volumes currently operating at acceptable levels, ranging from LOS C to LOS D, which meets the desired LOS threshold of “D” for this location, except at the Via Cordova intersection during the AM peak hours where it operates at LOS E.

For a two-lane highway operating at LOS C (see Figure 2), traffic flow will be moving at approximately 45 mph. This implies that traffic flow will be stable, but there will be less freedom to select speed, to change lanes, or to pass which results in minimal delays. At LOS D, the traffic flow becomes unstable with speeds of 40 mph. Traffic speeds will be subject to a sudden change,

which will make passing difficult and will result in minimal delays. In year 2030 with the No Build Alternative, the traffic will be operating at LOS F. At LOS F, the traffic will be heavily congested and speeds will be less than 35 mph. Traffic demand will exceed capacity and speeds will vary greatly which will result in significant delays.

A Highway Capacity Manual (HCM) delay-based analysis was carried out to provide information on performance of the three unsignalized intersections along the proposed project area: Via Cordova at SR-74, Via Cristal at SR-74, and Avenida Siega at SR-74. An intersection traffic analysis addresses only those movements that are stopped (i.e., side street traffic) or that make a left-turn into a side street. Austin-Foust Associates, Inc.'s 2007 Supplemental Report reveals that for existing conditions, all the three unsignalized intersections currently operate at satisfactory levels of service (i.e., from LOS A to LOS D) except for the traffic coming from a minor street and turning left. In order to avoid long traffic delays, the project is providing eastbound left-turn lanes at the unsignalized intersections to allow for vehicles exiting minor streets to turn right to eastbound SR-74 and complete a U-turn at the next available intersection.

LOS A is the highest level of service for a two-lane and multi-lane roadway (see Figures 2 and 3 in Chapter 1). The traffic flows freely with few restrictions on maneuverability or speed and does not result in any delays. At LOS B, traffic flow is stable. However, speed becomes slightly restricted, resulting in low restrictions on maneuverability. LOS F is the lowest level of service with traffic that is heavily congested. Demand exceeds the capacity, which results in greatly varying speeds and considerable delays.

Table 2.1.4-1
Mainline LOS Summary

Location	Lane Design Capacity	Existing					2030 No Build					2030 Build				
		No. of Lanes	Peak Hour Facility Capacity	Peak Hour Volume[a.]	V/C	LOS	No. of Lanes	Peak Hour Facility Capacity	Peak Hour Volume[a]	V/C	LOS	No. of Lanes	Peak Hour Facility Capacity	Peak Hour Volumes	V/C	LOS
SR-74 w/o Via Cordova																
AM	2,100	1	1,785	1,586	0.89	E	1	1,785	2,046	1.15	F	2	4,200	2,046	0.49	C
PM	2,100	1	1,785	1,180	0.66	C	1	1,785	1,973	1.11	F	2	4,200	1,973	0.47	B
SR-74 w/o Via Cristal																
AM	2,100	1	1,785	1,351	0.76	D	1	1,785	1,934	1.08	F	2	4,200	1,934	0.46	B
PM	2,100	1	1,785	1,121	0.63	C	1	1,785	1,822	1.02	F	2	4,200	1,822	0.43	B
SR-74 w/o Avenida Siega																
AM	2,100	1	1,785	1,305	0.73	D	1	1,785	1,878	1.05	F	2	4,200	1,878	0.45	B
PM	2,100	1	1,785	1,001	0.56	C	1	1,785	1,803	1.01	F	2	4,200	1,803	0.43	B
SR-74 e/o Avenida Siega																
AM	2,100	1	1,785	1,319	0.74	D	1	1,785	1,880	1.05	F	2	4,200	1,880	0.45	B
PM	2,100	1	1,785	1,180	0.66	C	1	1,785	1,770	0.99	E	2	4,200	1,770	0.42	B

a. Highest one-way volume

Level of service values as follows:
- A V/C < 0.30
- B V/C 0.30 – 0.47
- C V/C 0.48 – 0.68
- D V/C 0.69 – 0.88
- E V/C 0.88 – 1.00
- F V/C > 1.00

Source: Austin-Foust Associates, Inc., "SR-74 (Ortega Highway) Widening Project Supplemental Traffic Study." (June 2007)

Accident Rates

During the 3-year period from January 1, 2003 through December 31, 2005, there were 53 accidents within the Project Limits. As shown in Table 2.1.4-2, the actual accident rate within the Project Limits is lower than the average accident rate occurring on highways of similar traffic volumes and road conditions.

Table 2.1.4-2
Accident Rate Summary (Accident Per Million Vehicle Miles)

	Fatal	Fatal + Injury	Total
Actual	0.00	0.26	0.93
Average	0.025	0.71	1.57
Source: Department District 12, "Traffic Accident Surveillance and Analysis System (TASAS) Table B."			

Pedestrian and Bicycle Facilities

There are existing sidewalks on the north and south sides of the highway that begin outside of the Project Limits to the west. These sidewalks continue partially through the project area with the north sidewalk currently terminating at Palm Hill Drive and the south sidewalk, currently, terminating just east of Avenida Siega. In order to provide sidewalk continuity between the City and County, the PDT agreed to provide a new sidewalk on the south side of SR-74 within the Project Limits. The sidewalk would start from the City portion and would extend into the County portion of the project. Existing discontinuous sidewalks on the north side of the project would be eliminated. Currently, there are no bike lanes within the Project Limits. However, the proposed project would provide a new Class II bicycle facility in the shoulder area. This would enhance multi-modalism and student access to the high school.

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component and would retain the existing roadway with one lane in each direction, and with shoulders in some sections of the highway. The No Build Alternative would not result in temporary changes to traffic volumes or circulation.

However, based on the information contained in the traffic studies and as shown in Table 2.1.4−1, the No Build Alternative would not meet the purpose and need to enhance capacity in the long term. Table 2.1.4-1 (Mainline LOS Summary) shows that for the mainline, the peak hour traffic volume increases from a range of 1,001 to 1,586 in 2005 to a range of 1,770 to 2,046 in 2030. The table also shows that the mainline would operate at LOS F. LOS F implies that the traffic will be heavily congested and speeds will be less than 35 mph. Traffic demand will exceed capacity and speeds will vary greatly which will result in significant delays. Traffic congestion through the Project Limits is expected to worsen in the 2030 future conditions, increasing from 24,000 vehicles per day in 2005 to 42,000 vehicles per day in 2030.

Austin-Foust Associates, Inc.'s 2007 Supplemental Report shows that in the year 2030, traffic conditions are expected to worsen for the No Build Alternative. The projected level of service for the various intersections within the project is LOS F. The traffic will be heavily congested and speeds will be less than 35 mph. Traffic demand will exceed capacity and speeds will vary greatly, which will result in significant delays. The higher through traffic volumes along SR-74 would result in increased delays for vehicles exiting the minor streets and intending to turn left due to the lack of gaps in the through traffic that would allow these vehicles to complete the left turn.

For the 2030 No Project conditions, the results are hypothetical, since there is inadequate capacity for the demand, and ever-increasing queues would form during the peak hours. Therefore, while the 2030 demand is the same as for with project conditions, the number of vehicles served during each of the peak hours is considerably less. As such, the results shown here only partially account for the actual conditions that might prevail.

<u>Build Alternative</u>

The Build Alternative contains a construction component and would involve widening the existing roadway from one lane in each direction to two 12-ft.-wide (3.6-m) lanes in each direction, adding 5 ft. (1.5 m) paved shoulders, and adding a 12 ft. (3.6 m) painted median of. The Build Alternative would result in temporary and long-term changes to traffic volumes and circulation as a result of construction.

As shown in Table 2.1.4-1 and in the Austin-Foust Associates, Inc.'s 2007 Supplemental Report, the Build Alternative would meet the purpose and need to enhance capacity in the long term. Table 2.1.4-1 shows that for the mainline, the levels of service would be at LOS B and C. There would be no delays or minimal delays and the operating speed would be 60 mph during the AM and PM peak hours. Traffic congestion through the Project Limits is expected to decrease with the implementation of this project in 2030 (i.e., LOS will improve from LOS D to LOS C during AM peak hours and from LOS C to LOS B during PM peak hours).

The Austin-Foust Associates, Inc.'s 2007 Supplemental Report shows that in the year 2030, for the Build Alternative, the projected level of service for the various intersections within the project limit ranges from LOS B for the SR-74 through traffic to LOS F for the minor streets' left-turn movements. There would be delays, the operating speeds would be 60 mph during AM hours, and would range from 55 mph to 60 mph during PM hours. Traffic conditions on intersections within the Project Limits are expected to improve in 2030 with the Build Alternative. Traffic delays are expected to decrease from 16 to 34 seconds in 2005 to 14 to 20 seconds in 2030 at these intersections. Although delays to intersection movements are less under the Build Alternative, delays to minor street left-turn movements attempting to access the SR-74 still exceed the threshold of acceptable seconds in delay, which would result in LOS F. At intersections within the Project Limits, the mainline traffic will operate at an acceptable level of service. However, the traffic exiting minor street and attempting to turn left onto westbound SR-74 would incur long delays due to lack of gaps in the through traffic. However, in order to avoid long traffic delays, the project is providing eastbound left-turn lanes at the unsignalized intersections to allow vehicles to turn right onto eastbound SR-74 and complete a U-turn at the next available intersection.

Pedestrian and Bicycle Facilities

In early 2000, the Department conducted a study in the vicinity of the Via Cordova/Hunt Club Drive intersection to identify the need for a pedestrian crossing. The pedestrian count and field observation indicated an extremely low demand to warrant a signal light as a means for providing a safe crossing. The project design does not preclude the potential construction of a non-signalized painted crosswalk with a minimum four foot-wide raised median to reduce the

crossing distance of SR-74, nor the construction of a full signal light for pedestrian crossing if such a signal is warranted in the future.

The pedestrian count also did not warrant the retention of the existing sidewalk on the north side of SR-74. It was agreed by the PDT to provide a continuous sidewalk between the City and County area. It required the provision of a new sidewalk on the south side and elimination of the existing discontinued sidewalks on the north side. The project also proposes to utilize shoulders on both sides of the roadway for a Class II bicycle facility. It is compatible with the Bikeways Plan included in the Transportation Element of the *Orange County General Plan*.

Comparative Analysis: No Build and Build Alternatives

Several measures of effectiveness (MOEs) were used to compare the no-project and the with-project conditions. These include intersection level of service, travel times, and travel speeds for the section of highway that will be improved. The level of service information was summarized earlier in this section and information for the other two MOEs was prepared using data from Synchro 6.0 and SIMTRAFFIC. The results are summarized in Table 2.1.4−3. A comparison between the 2030 No Build and 2030 Build indicates a significant decrease in the average travel time per vehicle, particularly during the PM peak hour.

Table 2.1.4-3
Comparative Analysis of Operational Performance

Intersection	Existing		2030 No Build		2030 Build	
	AM	PM	AM	PM	AM	PM
1. Via Cordova & Ortega						
Travel time/veh (mins)	0.4	0.5	0.6	6.6	0.5	0.6
2. Cristal & Ortega						
Travel time/veh (mins)	0.6	0.6	0.6	1.2	0.6	0.7
3. Avenida Siega & Ortega						
Travel time/veh (mins)	1.5	1.3	1.4	4.0	1.4	2.8
Source: Austin-Foust Associates, Inc., *SR-74 (Ortega Highway) Widening Project Supplemental Traffic Study* (November 2006)						

For 2030 conditions, the improvement is the addition of one through lane in each direction. The analyses first examined the operational performance of individual intersection movements, followed by an analysis of the collective operational performance of these movements to

determine intersection LOS. Finally, an evaluation was made of the overall performance of the mainline improvements as a system using a selected MOE.

Table 2.1.4-4 is a comparative summary of the operational performance of the No Build and Build Alternatives. The criteria used here include intersection level of service, mainline roadway levels of service, and overall system operation MOE for average vehicle travel time.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative would not result in changes to present traffic volumes and circulation. The No Build Alternative provides the baseline for comparative analysis; therefore, no avoidance, minimization, or mitigation measures are proposed.

Build Alternative

- The project shall provide eastbound left-turn lanes at the unsignalized intersections and allow U-turns at these locations to alleviate side-street delays. This would facilitate the movement of minor street traffic onto the SR-74/Ortega Highway via a right turn and then a U-turn at the next available intersection.

- The Traffic Management Plan (TMP), a standard condition placed on all construction projects, is designed to minimize construction-activity-related motorist delays, queuing, and accidents by the effective application of traditional traffic-handling practices and innovative approaches. The TMP aims to relieve congestion and maintain traffic flow throughout the alternative routing and surrounding area within Riverside and Orange Counties. The preliminary Traffic Management Plan includes proposed Lane Closure Charts and Detour Plans. The TMP will be finalized by the time final designs are prepared. However, it is certain that one lane in each direction would be kept open at all times.

Table 2.1.4-4
Comparative Summary of Alternatives

Description	Intersection Operational Level of Service	Mainline Level of Service	Measures of Effectiveness (MOE)
Existing SR-74/Ortega Highway as a two-lane roadway from Calle Entradero to the City/County border.	HCM LOS indicates acceptable LOS for all intersections.	Volume-to-capacity LOS is C, D, or E depending upon location and directions.	Average peak hour travel time for a vehicle traversing the network is approximately one minute (62 seconds in the AM and 55 seconds in the PM hour).
2030 No Build Alternative Same as existing but with 2030 forecast volumes.	HCM LOS indicates unacceptable LOS for all intersections (LOS F) with the exception of Avenida Siega/SR-74 during the AM peak hour. Unacceptable LOS for intersections results from significant delays experienced by left-turning minor street traffic, (>60 secs).	Volume-to-capacity LOS is unacceptable for roadway segments (LOS D/E).	Average peak hour travel time for a vehicle traversing the network is approximately 1.2 to 4 minutes (4 minutes in the AM and 1.2 minutes in the PM peak hour).
2030 Build Alternative The improvements will widen SR-74 to four lanes from the current two-lane section.	HCM LOS indicates unacceptable LOS for all intersections (LOS F) with the exception of Avenida Siega/SR-74 during the AM peak hour. Unacceptable LOS for intersections results from significant delays experienced by left-turning minor street traffic (>60 secs). Provision of left-turn lanes and permitting U-turns at intersections would assist minor street traffic to access SR-74/Ortega via a right turn and then a U-turn.	Volume-to-capacity LOS is acceptable for all roadway segments (LOS C or better).	Average peak hour travel time for a vehicle traversing the network is approximately one minute (55 seconds in the AM and 73 seconds in the PM peak hour).

HCM: Highway Capacity Manual
LOS: Level of Service
Source: Austin-Foust Associates, Inc., "SR-74 (Ortega Highway) Widening Project Supplemental Traffic Study." (June 2007)

- The TMP evaluates traffic mitigation strategies for the duration of construction, addresses lane closure requirements, and seeks to inform the public and motorists. The TMP strategies include: project phasing, a detour plan, provision of temporary lanes/shoulders, and reversible lanes. Traffic management strategies will also include a public awareness campaign, traffic systems and signage, and traffic support and safety elements. The public awareness element usually involves brochures, mailers, and/or media releases to educate and inform the public of the construction activities. The motorist information strategies include message signage and a highway advisory radio to alert the motorists of road closures and/or detours. Construction Alerts, detailing the project information, alternative routes, and the Transportation Helpline Telephone number, would be made available to residents, businesses, local officials, City Halls, and the Chambers of Commerce throughout local communities.

- The traffic support and safety elements involve incident management. The Transportation Management Center (TMC) aids in facilitating communication between construction personnel, the traffic management team, traffic-control officers, and the TMP Coordinator. The TMP would include provisions to minimize delays and give access to emergency personnel like police and fire departments. Serving as a communications center, the TMC would help expedite the removal of minor and major incidents, help make decisions concerning the closing and opening of lanes, and manage traffic by providing traffic information to the media.

2.1.5 Visual/Aesthetics

This section describes the aesthetic and visual resource conditions of the proposed SR-74 widening project within the limits of the City of San Juan Capistrano. The section also discusses potential aesthetic impacts that could result from implementation of the proposed project. A program for avoidance, minimization, and mitigation measures is also provided.

Regulatory Setting

CEQA establishes that it is the policy of the State to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities." [CA Public Resources Code §21001(b)]

Affected Environment

This analysis is based on the Visual/Aesthetics Report prepared by the Department in December 2006 and updated in June 2007.

The proposed project is entirely within a semi-rural/urban setting with sensitive visual resources. The assessment areas that depict visual conditions within the proposed project were identified and analyzed using the methodology provided in FHWA guidelines, *Visual Impact Assessment for Highway Projects,* March 1981.

Assessment #1 is located east of Calle Entradero where the project begins and is shown in Layout L-1, Station 72+00 in Appendix D. This area includes the Hunt Club entrance and residential streets on both sides of SR-74. There is a multitude of streetscape planting with trees, meandering sidewalks, groundcover, and a horse trail located on the north side of SR-74.

Assessment #2 is located at Station 90+00 and is shown in Layout L-2 in Appendix D. It evaluates the impact of the widened roadway on the residential use on the north side of the project area. There are no existing sidewalks or curb and gutters along this section of roadway. The driveway into the resident's home has a steep grade. There are views of the existing power pole and limited types of vegetation in the area.

Assessment #3 is located at Station 92+50 and is shown in Layout L-3 in Appendix D. It evaluates the view of the Tanaka Farm, a small fruit and vegetable stand that sets back from SR-74 with room for motorists to stop and shop. The overhead utility lines are camouflaged with mature trees on both sides of the highway. There is ornamental landscaping and a meandering walk on the south side and beginning of the rural environment on the north side.

Assessment #4 is located at Station 102+25 and is shown in Layout L-3 in Appendix D. It evaluates the visual disruption that would occur associated with proposed hillside cuts and

retaining wall and sound wall installation for the proposed project. Traveling eastward, this area is currently more rural in character along SR-74. There is a westerly view of a steep slope within the foreground view. Mature trees and utility poles are up the slope. It has flat terrain with limited distant views.

Assessment #5 is located at Station 107+00 and is shown in Layout L-3 in Appendix D. It evaluates typical highway as the roadway widens out to more views and vistas. This location is unique in that the residential community ends, rural environment begins and distant views are first seen. A utility pole line in the north side of SR-74 strings across the landscape. The terrain is flat. Native vegetation grows on both sides of the highway.

Impacts

The City of San Juan Capistrano planning documents identify a number of goals and policies associated with protecting the visual attributes of the City. These goals policies, which are listed below, were considered when conducting the visual impact assessment.

City of San Juan Capistrano General Plan (December 1994)

Open Space and Conservation Element

Goals: 1) Conserve natural resources, scenic beauty and agriculture, and other land and water resources whose retention is necessary for the continued maintenance of the quality of the environment and prosperity of the community. 2) Prevent incompatible development of areas that should be preserved for scenic, historic, conservation or public safety purposes. Scenic features include floodplains and creeks, major ridgelines, plant and wildlife habitats, landmark trees and general open space areas. Landslide areas may be removed or stabilized on the condition that remedial grading and landscaping serve to restore the natural character and appearance of such areas.

Scenic Highway Element

Goal: The scenic, historic, or cultural character of the scenic corridor should have a quality that merits recognition, or it should be of sufficient interest to be a destination in and of itself for recreation purposes. In addition, it should provide frequent opportunities for the development of

roadside complementary facilities adjacent to the road. Eligible scenic highway routes include SR-74, I-5 south of SR-74, and San Juan Creek Road.

Floodplain Element

Goal: Public works projects affecting creeks and floodplains should include measures to enhance and/or restore natural character by means of riparian tree, shrub, and grass planting, removal of undesirable plants such as giant reed, restoration of animal habitat, or similar measures.

City of San Juan Capistrano Municipal Code, Title 9 – Land Use, October 1994

Hillside Management District

Policies:

1. To implement the programs and policies of the General Plan, including the Open Space and Conservation Element relating to the maintenance of the natural character and amenity of hillsides as a scenic resource of the City.

2. To preserve natural topographic features and appearances by means of land sculpturing so as to blend any man-made or manufactured slopes into the natural topography.

3. To retain major natural skyline profiles so as to avoid abrupt changes in grades.

4. To retain major natural topographic features, such as canyons, drainage swales, steep slopes, watershed areas, flood plains, view corridors and scenic vistas.

5. To preserve and enhance prominent landmark features such as natural rock outcroppings, prominent trees and plant materials, and other areas of special natural beauty.

6. To preserve and introduce plant materials protecting slopes from soil erosion and slippage, and minimize the visual effects of grading and construction on hillside areas.

To utilize street designs and improvements which serve to minimize the grading alterations and harmonize with the natural contours and character of the hillside.

No Build Alternative

The No Build Alternative does not include any construction elements or change the existing conditions. Therefore, it would not alter visual resources.

Build Alternative

Visual Assessment # 1 evaluates the landscape character of the site and sensitivity to change at Calle Entradero within the foreground view of eastbound drivers on SR-74 and the surrounding residents. Figure 9 provides a location map for Visual Assessment #1. Figure 10 depicts the existing view for motorists traveling eastbound. Figures 11 and 12 identify this portion of SR-74 with and without the proposed project for motorists traveling westbound on SR-74. The changed view would affect two types of groups: those using the highway and those looking towards it.

As depicted in the visual simulation (Figure 12), most of the existing streetscape would be taken out on the northern side to accommodate the new widening. This includes the meandering sidewalk, the existing trees and lawn, as well as any existing ornamental landscaping. The existing equestrian trails on the north side between the Hunt Club entrances would be retained. SR-74 would have four through lanes with a painted median plus a five-foot paved shoulder on the north and south sides of the roadway and Class II bicycle facilities.

After construction, SR-74 would feel less like a residential community drive and more of a thoroughfare. Residential viewers would have the highest view duration and would be expected to experience high sensitivity, particularly those who can see the project from nearby. Please refer to the Avoidance, Minimization, and Mitigation Measures, Build Alternative, for measures to reduce visual impacts resulting from project implementation to less than substantial levels.

Figure 9
Visual Assessment # 1 View Point (Looking East)

Figure 10
Existing Eastbound View at the Beginning of Project

Figure 11
Visual Assessment # 1 View Point: Existing Conditions (Westbound)

Figure 12
Visual Assessment # 1
View Simulation After Project Construction (Westbound)

Visual Assessment # 2 evaluates how residents on the north side of SR-74 would be affected by the proposed project. Figure 13 provides a location map for Visual Assessment #2. There are several residences in this portion of the study area. Along this segment of SR-74, the highway does not have sidewalks, curbs, or gutters. Aboveground power poles are visible. Figures 14 and 15 depict the surrounding area and residence affected by the proposed widening project. Figures 16 and 17 identify this portion of SR-74 with and without the proposed project for motorists traveling westbound on SR-74.

Figures 14 and 15 depict the foreground view of westbound drivers on SR-74. With implementation of the proposed project, on the north side, the residents' existing slope would be cut in order to grade the roadway. A retaining wall would be constructed to hold the soil back. The front of the walls would be covered with landscape materials to meet the City's aesthetic requirements and to blend the engineered structures into the natural environment.

On the south, residents would view a sound wall along the parkway area. Existing streetscape landscaping, including mature trees, would be removed.

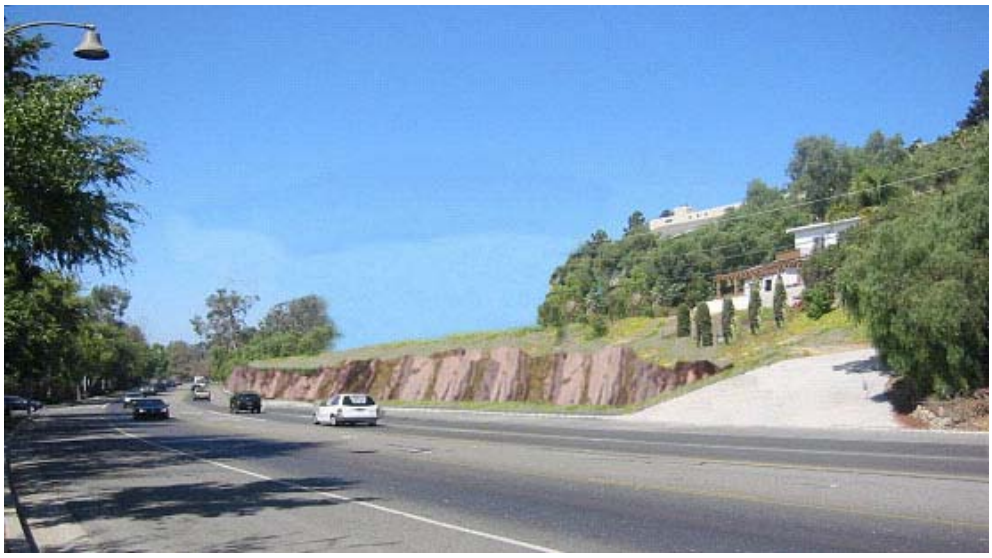
Figure 13
Visual Assessment #2 View Point (Looking North)

Figure 14
Existing Easterly View of Residence

Figure 15
Existing View of Affected Residence

Figure 16
Visual Assessment # 2 View Point: Existing Conditions (Westbound)

Figure 17
Visual Assessment # 2
View Simulation After Project Construction (Westbound)
Simulated Rock Retaining Wall and Glass Sound Wall



The visual impacts of the retaining and the sound walls on both the motorists and the residential viewers would be negative. The height, length, and texture of the walls and extensive landscaping would improve the views. Please refer to the Avoidance, Minimization, and Mitigation Measures, Build Alternative, for measures to reduce visual impacts resulting from project implementation to less than substantial levels.

Visual Assessment #3 is an easterly view between Via Cristal and Via Errecarte. Figure 18 provides a location map for Visual Assessment #3. Tanaka Farms can be seen in the foreground. Figures 19 and 20 depict eastbound vehicles near Tanaka Farms and a close up view of Tanaka Farms, respectively. Mature trees are visible in the photographs. The south side of SR-74 includes a sidewalk and parkway trees. Figures 21 and 22 depict this portion of SR-74 with and without the proposed project for motorists also traveling eastbound on SR-74.

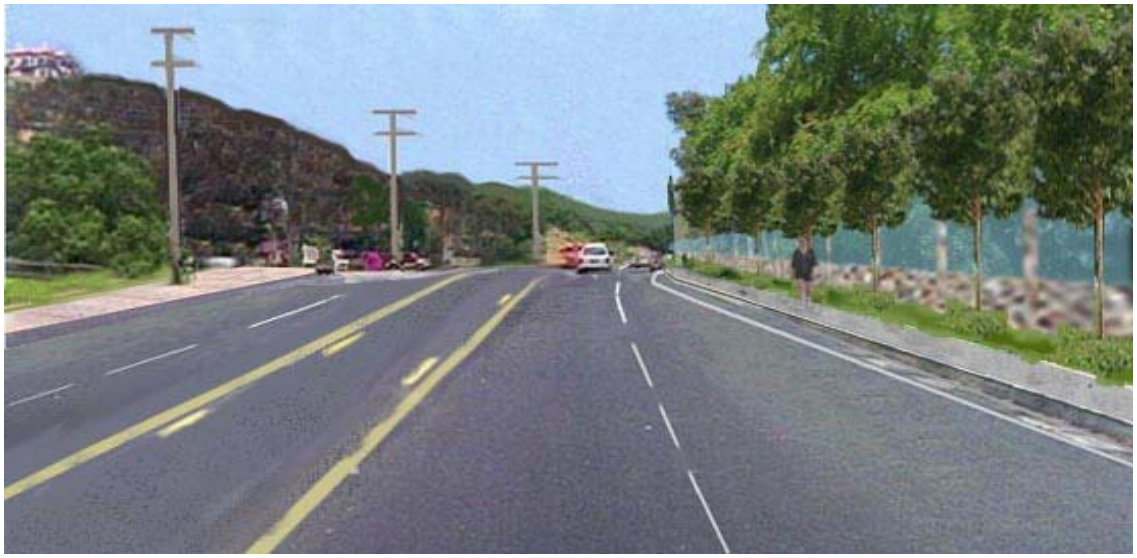
Figure 18
Visual Assessment # 3 View Point (Looking East)

Figure 19
Existing Easterly View of Tanaka Farms

Figure 20
Existing View of Tanaka Farms

Figure 21
Visual Assessment # 3 View Point: Existing Conditions (Eastbound)

Figure 22
Visual Assessment # 3
View Simulation After Project Construction (Eastbound)
Glass Sound Wall



Upon implementation of the proposed highway widening project, SR-74 would be closer to Tanaka Farms making the building more visible to the motorists. Existing aboveground utility lines would also be visible with the removal of mature vegetation. There would be loss of existing trees along the northern side of the highway. Per the preliminary tree survey, the removal of trees would be required to widen the road and add retaining walls on the north side. On conventional highways, Department Guidelines prohibit the placement of large street trees within the clear recovery zone for speeds posted above 35 mph. An in-lieu transfer fee for the replacement value of the removed trees could be provided to the City.

On the south side of SR-74, a sound wall would be constructed. Existing landscaping, including some trees, which would be removed to construct the sound wall. Due to the removal of the mature trees on the north side and the addition of a sound wall on the south side, the views of the overhead utility lines and the disturbed landscape would contribute to a negative visual impact at this location. Please refer to the Avoidance, Minimization, and Mitigation Measures, Build Alternative, for measures to reduce visual impacts resulting from project implementation to less than substantial levels.

Visual Assessment #4 evaluates the foreground westerly view of an unvegetated steep slope that would be impacted due to the widening project. Figure 23 provides a location map for Visual Assessment #4. Figure 24 depicts the slope on the north side of the SR-74 that would be impacted by the widening. The slope face is devoid of vegetation. Mature trees are located on the top of the slope. The south side of SR-74 includes a sidewalk and parkway trees.

Figures 25 through 28 depict this portion of SR-74 with various sound wall and retaining wall materials. Along the south side of the highway, a sound wall would begin at Via Errecarte and would continue westward to Via Cordova. The utility poles would be close alongside the roadway and would be more visible. The residents along the south side of SR-74 would have a sound wall 14 ft. (4 m.) high contiguous to their back yards. After construction, the retaining and sound walls would have negative visual impact upon the community and the motorists using the highway. Please refer to the Avoidance, Minimization, and Mitigation Measures, Build Alternative, for measures to reduce visual impacts resulting from project implementation to less than substantial levels.

Figure 23
Visual Assessment # 4 View Point (Looking West)

Figure 24
Impacted Slope

Figure 25
Visual Assessment # 4 View Point: Existing Conditions (Westbound)

Figure 26
Visual Assessment # 4
View Simulation After Project Construction (Eastbound)
Slump Stone Retaining Wall and Sound Wall

Figure 27
Visual Assessment # 4
View Simulation After Project Construction (Eastbound)
Retaining Wall and Glass Sound Wall

Figure 28
Visual Assessment # 4
View Simulation After Project Construction (Eastbound)
Simulated Rock Retaining Wall and Glass Sound Wall

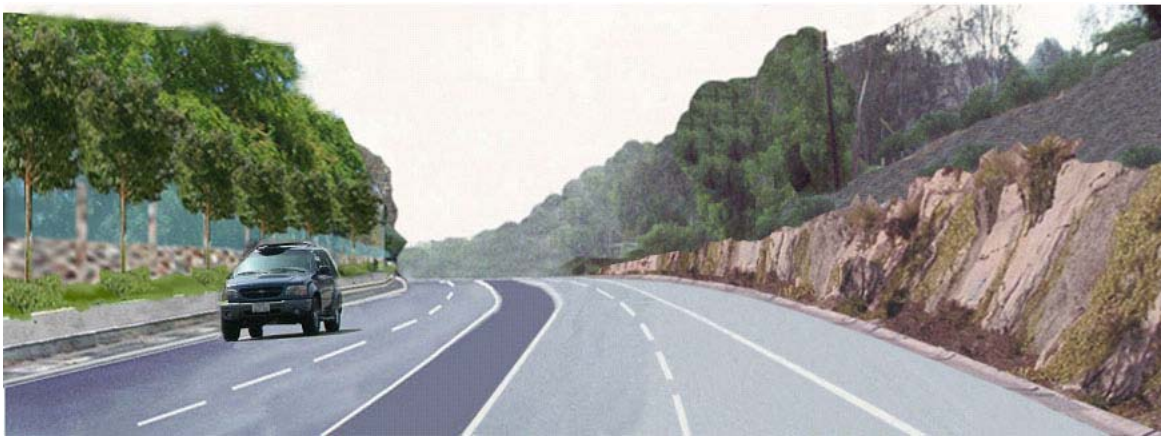


Figure 29 identifies the location for Visual Assessment # 5, located at the corner of Avenida Siega and SR-74. This assessment analyzes the entire view of eastbound drivers on SR-74. Figures 30 and 31 depict this portion of the roadway viewed from the westbound and eastbound directions, respectively. The slope face is devoid of vegetation. Mature trees are located on the top of the slope. The south side of SR-74 includes a sidewalk and parkway trees.

Figure 29
Visual Assessment # 5 View Point (Looking Eastbound and Westbound)

Figure 30
Existing Westerly View

Figure 31
Existing Easterly View

Figure 32
Visual Assessment # 5 View Point: Existing Conditions (Eastbound)

Figure 33
Visual Assessment # 5
View Simulation After Project Construction (Westbound)
Simulated Rock Retaining Wall

Figure 34
Visual Assessment # 5
View Simulation After Project Construction (Westbound)
Slump Stone Veneer Retaining Wall

Figure 35
Visual Assessment # 5
View Simulation After Project Construction (Westbound)
Concrete Retaining Wall

The major change in view for this portion of the roadway widening is the addition of a retaining wall up to 24 ft. (7.3 m) on the northern side of SR-74 and the removal of the existing vegetation to accommodate the retaining wall. Figure 32 depicts this portion of SR-74 without the proposed project. Figures 33 through 35 depict this portion of SR-74 with various sound wall and retaining wall materials.

Along the south side of SR-74, a sound wall would begin at Via Errecarte and continue westward to Via Cordova. The utility poles would be alongside the roadway and would be more visible. There are existing shrubs at the bottom of the slope, which would be removed to accommodate the retaining wall. The overall visual quality at this location has been negatively impacted. Please refer to the Avoidance, Minimization, and Mitigation Measures, Build Alternative, for measures to reduce visual impacts resulting from project implementation to less than substantial levels.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative is not expected to have an impact on visual resources, no avoidance, minimization, or mitigation measures are proposed for this alternative.

Build Alternative

The Build Alternative includes the following measures to reduce visual impacts resulting from project implementation to less than significant levels:

- On the south side, a preliminary tree survey was prepared indicating that, within the area of the sound wall, the removal of approximately 41 trees was anticipated for a modular panel sound wall. The sound wall can be either a natural light penetrating sound wall to maintain view corridors or a sound-absorbing wall. Both walls require construction methods that would greatly reduce the amount of tree removal and retain the rural character of the area. A sound wall that permits light penetration maintains view corridors, and minimally disturbs the existing landscaped vegetation. The sound wall construction can be with Plexiglas panels built on top of the existing garden walls, or with a combination of aesthetically treated concrete and/or Plexiglas panels. The

selection of a sound wall that absorbs sound needs consideration to blend with the area and to meet City requirements. Planting of vines on the walls and small street trees can help to minimize the harshness of a sound wall.

- On the north side, a preliminary survey anticipated the removal of 70 trees for widening and adding retaining walls. Any tree removal needs replacement with boxed-sized trees within the Project Limits. Where there are space limitations, trees would be planted near the project area within the City limits. Where speeds are posted at greater than 35 mph, large trees (trees with trunks over 4 inches in diameter when mature) shall be placed outside the clear recovery zone. Small trees (trees with trunks 4 inches diameter and less when mature) should be used to replace the trees within the clear recovery zone. Tree spacing for small trees can be adjusted to account for the removal of existing mature trees.

- Underground utilities, which would be installed to reduce the visual impact of these dominant features within the residential neighborhood.

- Retaining walls need aesthetic treatments or textures applied to the wall finish. Wall finishes may include simulated rock, stone veneer, slump block veneer, or an aesthetic committee recommendation finish to give the walls a natural appearance to blend with the existing terrain or with the residential neighborhood.

- Small trees, shrubs, groundcovers, and vines would be planted in front of the walls, where possible, to enhance visual quality.

- Replacement planting can be constructed as a separate landscape project complying with mitigation recommendations and City concurrence (See Appendix C for County's Landscaping Commitment, email from Harry Persaud to Smita Deshpande on March 7, 2007).

2.1.6 Cultural Resources

Regulatory Setting

"Cultural resources," as used in this document, refers to all historical and archaeological resources regardless of significance. The primary State and federal laws and regulations that deal with cultural resources include:

- The National Historic Preservation Act (NHPA) of 1966, as amended, which sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP).

- CEQA and California Public Resources Code §5024.1 established the California Register of Historical Resources. Public Resources Code §5024 requires state agencies to identify and protect State-owned resources that meet NRHP listing criteria. It further specifically requires the Department to inventory State-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing State-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

- Public Resources Code §5097.9 established the Native American Heritage Commission (NAHC), which maintains a statewide list of sacred sites, designates the "most likely descendants" when human remains are encountered, and can mediate disputes relating to the treatment of human remains. Public Resources Code §5097.991 states that Native American remains and associated grave artifacts shall be repatriated. Public Resources Code §5097.5 makes it a misdemeanor for anyone to knowingly disturb any archaeological, paleontological, or historical feature situated on public lands.

- Health and Safety Code §7050.5 outlines procedures to follow when human remains are encountered. It directs that no further disturbance to the area occurs, the Coroner is contacted and the NAHC is notified within 24 hours. If cultural materials are discovered

during construction, all earth-moving activity within and around the immediate discovery area will immediately cease until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code §7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code §5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the District 12 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code §5097.98 are to be followed as applicable.

Table 2.1.6-1
Eligibility Criteria for the National Register of Historic Places and the California Register of Historic Resources

National Register Criteria	California Register Criteria
A. Events that have made a significant contribution to the broad patterns of our history.	(1) Events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
B. Lives of persons significant in our past.	(2) Lives of persons important in our past.
C. Distinctive characteristics of a type, period, or methods of construction, work of a master, high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.	(3) Distinctive characteristics of a type, period, region, or method of construction, work of an important creative individual, or possess high artistic values.
D. Yielded, or may be likely to yield, information important in prehistory or history.	(4) Yielded, or may be likely to yield, information important in prehistory.

Affected Environment

A Historic Property Survey Report (HPSR), dated January 2007, was prepared by Department staff and documents cultural resources within the Area of Potential Effects (APE) for the proposed undertaking. The APE is the area within which cultural resources may be affected, either directly or indirectly, by a proposed project. The proposed project's APE encompasses the existing paved roadway and the maximum limit of any potential disturbances that may result

from construction activities. The HPSR contains three technical reports: an Archaeological Survey Report (ASR); a Historic Resource Evaluation Report (HRER) for architecture; and a Historical Resource Evaluation Report (HRER) for historic archaeology. The information presented in this section is based on the evaluation results found in the HPSR document. The document has been forwarded to the SHPO, and the Department is awaiting concurrence on the findings of the HPSR.

An Indirect APE was established to take into account any indirect effects the proposed project may have on the built environment and is depicted on the APE map within the HPSR. The indirect APE includes the first row of adjacent parcels along SR-74.

The HPSR includes findings from record/literature searches, consultation with interested parties, and pedestrian field surveys. Prior to the field survey, a records and literature search was conducted in August 2001 at the South Central Coastal Information Center (SCCIC) for an area within a 1-mile radius (1.6 km) of the project and includes inventories of the NRHP, CRHR, the California Historical Landmarks, California Points of Historic Interest, and the historic local inventories. Updated searches were conducted in 2003 and 2005 with the same results. Additional sources consulted for the project area include:

- Native American Heritage Commission (NAHC)
- City of San Juan Capistrano Planning Department
- Juaneño Band of Mission Indians
  - David Belardes, Joyce Perry, Sonia Johnston, Anita Espinoza, Alfred Cruz, Kristen Rivers, Anthony Rivera, and Mike Aguilar
- Cahuilla Band of Mission Indians
  - Anthony Madrigal Jr. and Maurice Chacon
- San Juan Capistrano Historical Society
- San Juan Capistrano Historian Ilse Byrnes
- Orange County Archives
- Orange County Assessor’s Office
- Orange County Recorder’s Office
- San Juan Capistrano Regional Library
- California State Library (Sacramento)

- Caltrans Cultural Resources Library (Sacramento)
- Caltrans Library (Sacramento)

In 2001, Department staff consulted with the NAHC requesting a search of their Sacred Lands File. The NAHC responded by letter (dated August 16, 2001) that a search had failed to identify cultural resources within the project area. Department staff subsequently mailed letters to all the Native American contacts and provided them with the response. An updated search was requested in 2006, and the same response received on September 27, 2006, with an updated contact list. Subsequently, letters and follow-up calls were made to each individual on the list resulting in the following comments.

David Belardes of the Juaneño Band of Mission Indians – Acjachemen Nation, responded by letter (dated September 19, 2001) that he is very familiar with and has performed monitoring of the project area for over 20 years. He requested to be kept informed about any developments during the project and offered monitoring assistance. Anita Espinoza of the Juaneño Band of Mission Indians offered Juaneño monitoring assistance and requested to be kept informed of the project and any finds (Follow-up call dated October 24, 2006). Maurice Chacon of the Cahuilla Band of Indians requested being notified in case of construction finds (Follow-up call dated October 24, 2006).

No other comments were received from the Native American contact list. The San Juan Capistrano Planning Department and San Juan Capistrano Historical Society provided valuable information pertaining to the historic resources within the project vicinity. San Juan Capistrano Historian Ilse Byrnes supplied additional information and in 2004, the possibility of an undocumented adobe within the Project Limits was identified. The potential adobe site was subsequently recorded as the Manriquez Adobe.

Field surveys were conducted in stages by Department staff. The roadway and shoulder areas were surveyed in 2001 initially, and upon access rights, the adjacent parcels were surveyed in 2003. Additional field surveys and site visits were conducted by Department staff between 2004 and 2006.

Historical Setting

The earliest recorded European incursion into the area now known as Orange County occurred in 1769, when a Spanish expedition headed by Gaspar de Portola began an overland march from San Diego in hopes of locating the Bay of Monterey. On July 23, 1769, Portola and his party of 62 men camped in the San Juan Canyon. When the Spanish first arrived in what is now known as Orange County in 1769, the current project area was situated within the geographic boundaries of the Acjachemem tribe, now known more commonly as the Juaneño (so named from their later association with Mission San Juan Capistrano). Ethnographic accounts reveal that four major Juaneño village sites were once located in the general vicinity of the SR-74. The San Juan Creek, which parallels SR-74 for most of the project area, is now an intermittent stream. However, evidence indicates that prehistorically, San Juan Creek was a major creek that flowed perennially. Archaeological sites within the project vicinity can be characterized as camp sites, consisting primarily of evidence of lithic scatters and the use of bedrock for milling and grinding food.

In October 1775, Spanish missionaries raised a cross at a site in the San Juan Canyon where it was hoped a mission could be established. Actual construction of the mission was delayed by a revolt at the San Diego mission, and it was not until November 1776 that the first rudimentary structures were erected. The exact location of this original mission site remains unknown. A historical marker placed just outside the current project area proclaims that the original mission was built approximately one-and-a-half miles to the south.

Due to concerns about flooding, the padres decided during the summer of 1778 to relocate the mission site to its present location, approximately one mile to the southwest of the project area. The new mission developed rapidly as large numbers of native inhabitants were brought in for conversion and for use as laborers. A magnificent cross-shaped, seven-domed church was built with Indian labor and was dedicated in September 1806. However, the use of the church was to be short-lived. A violent earthquake on December 8, 1812, toppled the structure, killing 40 Indian worshippers. The church was never rebuilt.

By the 1930s, the tourism potential of the mission was realized. It was also during this time that the road now known as the Ortega Highway (SR-74) was completed. While construction of the

road was completed in 1932, the route had actually been in use for centuries by Native American traders and Spanish conquerors that traversed the trail through the Santa Ana Mountains to the deserts beyond. The newly paved highway offered easy access to the San Juan Hot Springs, located several miles upstream from the current project area. The hot springs became another popular tourist destination during the 1920s and 1930s.

The opening of I-5 in the 1950s expanded outside access to the town. In 1961, the City of San Juan Capistrano incorporated, and the following 20 years witnessed an explosion of new home construction. By the early 1980s, local public outcry had slowed the rate of expansion, but by then the character of the town had evolved from agrarian to suburban. Today, the City of San Juan Capistrano remains a suburban community, filled with residents that commute to employment outside the area; yet dispersed throughout the City are numerous visible reminders of San Juan's historic past.

Effects to Archaeological and Historic Resources

The results of the record and literature search indicated that at least 20 survey/reports and 11 archeological sites (historic and prehistoric) have been documented within a 1-mile radius of the Project Limits. The following four historic properties were also recorded within a one-mile radius: the Forster House; Harrison House; Parra Adobe; and the Goodwin-Rosenbaum House. The Forster House, Harrison House, and Parra Adobe are all located outside the APE for the proposed project. They are situated between ¼ and 1 mile west of the beginning Project Limits. The Goodwin-Rosenbaum House was located within the Project Limits, but was demolished in 1990 and the parcel redeveloped. Two residences are listed on the City's inventory for historic landmarks. No prehistoric archaeological sites were identified within the proposed APE. Through background research, consultation with interested parties, and field surveys, the following resources were identified and were formally evaluated within the proposed APE: five buildings and one historic archaeological site.

Buildings

Of the five buildings, the Hankey-Rowse House was determined eligible for the NRHP. The remaining four evaluated buildings were determined ineligible for the NRHP. One of the four ineligible properties is listed on the City of San Juan Capistrano Inventory of Cultural and Historical Landmarks (ICHL), as is the Hankey-Rowse House. However, since the City is not yet registered as a Certified Local Government (CLG), the ICHL status does not automatically qualify these structures as historic resources for the purposes of CEQA. The Department evaluated these resources in accordance with Section 15064.5(a)(2)(3) of the CEQA Guidelines, using criteria outlined in Section 5024.1 of the California Public Resources Code. Under this criterion, the Department determined that the Hankey-Rowse House is a historical resource for the purposes of CEQA, and that the remaining properties are not considered historical resources for purposes of CEQA. In addition, it was determined that there was no potential for a National Register eligible historic district or historic landscape.

The Hankey-Rowse House is eligible for listing in the NRHP under Criterion C for its architecture. It represents a fine example of one of the last remaining farmstead homes from the early era of agricultural development that followed the introduction of irrigation to the area. The house was designed in a Folk Victorian style that employs Gothic forms, reminiscent of earlier settlement in the west. The structure appears much as it did when it was built in 1884, with minimal alteration over the century that followed, retaining exceptional integrity for a house of that age. The Hankey-Rowse House is located within the Indirect APE for the proposed project, adjacent to the location of a proposed sound wall. The sound wall would be built at the northern edge of the property and would follow the plan of an existing low modern garden wall. The two types of sound walls proposed are both built on pier-type footings that would not require removal of the existing mature vegetation. Because the mature trees would remain in place, and the green buffer that separates the house on the property from the modern highway and surrounding developments would be retained, the historic property would not be affected by the construction of the proposed sound wall. For this undertaking, a determination of No Historic Properties Affected has been made for this property.

Historical Archaeological Site

The Manriquez Adobe site was identified through archival research and oral history. No surface manifestations of the site were identified during the field survey. However, archival research suggested that information-bearing archaeological deposits may have survived. Therefore, for the purposes of this undertaking only, the Manriquez Adobe site is eligible to the NRHP under Criterion D. The period of significance is circa 1870 through approximately 1908. The site does not meet any other NRHP criteria, nor does it constitute a historical resource for the purposes of CEQA. Since the portions of the site within the proposed area of direct impact are not expected to contain information-bearing deposits and thus are non-contributing elements to the larger property, the project's finding is No Adverse Effect with Standard Conditions (ESA). Through the establishment of an ESA Action Plan, potentially significant subsurface deposits will not be impacted. The ESA Action Plan includes: safety fencing along the Direct APE to ensure no equipment inadvertently impacts information-bearing portions of the site; education of project personnel on archaeological sensitivity and expected remains; incorporation of the ESA Action Plan in the Final Construction Plans, Special Provisions, and Resident Engineer (RE) File; and periodic monitoring to ensure protections are enforced.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative does not include any construction component; therefore, it would not alter the current condition or result in impacts to cultural or historic resources. No avoidance, minimization, or mitigation measures are proposed for this alternative.

Build Alternative

The Build Alternative would not result in adverse effects to cultural or historic resources. No direct effects to the buildings evaluated for this project would occur as a result of proposed construction activities.

- While adjacent to a proposed sound wall, the Hankey-Rowse House would not be affected by construction given that the sound wall would be constructed in a manner that

would not require the removal of the existing mature trees which act as a buffer between the modern highway and surrounding development. Since the portion of the Manriquez Adobe site within the proposed area of direct impact is not expected to contain information-bearing deposits and thus are non-contributing elements to the larger property, the project's finding is "ESA." Through the establishment of an ESA Action Plan, potentially significant subsurface deposits will not be impacted. The ESA Action Plan includes: safety fencing along the direct APE to ensure no equipment inadvertently impacts information-bearing portions of the site; education of project personnel on archaeological sensitivity and expected remains; incorporation of the ESA Action Plan in the Final Plans, Special Provisions, and RE's Pending Construction File; and periodic monitoring by Department Archaeologists to ensure protections are enforced.

- It is the Department's policy to avoid impacts to cultural resources whenever possible. If buried cultural materials are encountered during construction, it is the Department's policy that work in the immediate vicinity of the find halt until a qualified Archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the project changes to include unsurveyed areas.

- If human remains are discovered, State Health and Safety Code §7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code §5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC who will then notify the MLD. At this time, the person who discovered the remains will contact District 12 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code §5097.98 are to be followed as applicable.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

The Department refrains from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The following issues are addressed in this analysis for the proposed project:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The 100-year floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the 100-year floodplain."

Affected Environment

This section is based on the *Hydraulics Study for Lower SR-74 Widening* (August 2006).

The Federal Emergency Management Agency (FEMA) determines the presence or absence of the 100-year and 500-year flood zones within the Project Limits. According to FEMA Map No. 06059C0444H (February 2004) and FEMA Map No. 06059C0465H (February 2004), the Project Limits are outside the floodplain.

Impacts

<u>No Build Alternative</u>

The No Build Alternative does not involve any construction. This alternative does not meet the "purpose and need" of this project.

Build Alternative

The Build Alternative would not substantially alter the existing drainage pattern of the area. Outflow would increase due to the construction of 1.13 hectares (2.79 acres) of additional paved area. As a part of the widening project, the Build Alternative proposes to construct additional drainage systems consisting of new inlets with bicycle proof grates and pipes and to replace an existing trapezoidal channel with a reinforced concrete box culvert. The additional flow will travel via a new underground storm drain system that outfalls to San Juan Creek outside the Project Limits.

The Build Alternative would not introduce any new risks or increase risk associated with flooding. The section of the highway within the Project Limits is not located within a 100-year or 500-year floodplain and is not subject to flooding due to a storm of the 100-year or 500-year frequency. Floodplain encroachment (neither longitudinal nor transverse) is not anticipated.

Avoidance, Minimization and/or Mitigation Measures

Since the Build and No Build Alternatives would not substantially alter the hydrology of the project area and would not introduce new risk or increase risk associated with flooding, avoidance, minimization, and /or mitigation measures are not proposed.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Section 303(d) of the 1972 Federal Clean Water Act (CWA) requires that states, territories, and authorized tribes develop a list of water bodies that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water on the lists and develop action plans called Total Maximum Daily Loads (TMDL) to improve water quality. The U.S. Environmental Protection Agency (USEPA) gave final approval to California's 2002 Section 303(d) List of Water Quality Limited Segments on July 25, 2003.

Section 401 of the CWA, the primary federal law regulating water quality, requires a water quality certification from the State board or regional board when a project: 1) requires a federal

license or permit—Section 404 is the most common federal permit for Department projects—and 2) will cause discharge into waters of the United States.

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant (except dredge or fill material) into waters of the United States. To ensure compliance with Section 402, the State Water Resources Control Board (SWRCB) has developed and issued a Statewide NPDES Storm Water Permit, to regulate storm water discharges from all of the Department's rights of way, properties, and facilities. The permit regulates both storm and non-storm water discharges during and after construction.

In addition, the SWRCB issues the Statewide NPDES Permit for all general construction activities of 1 acre (0.4 hectare) or greater. The Statewide General Construction Permit is also issued for a number of smaller projects that are part of a common plan of development with a total area exceeding 1 acre (0.4 hectare) or for projects that have the potential to significantly impair water quality. Department projects subject to the Statewide General Construction Permit require the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP identifies construction activities that may cause pollutants in storm water and measures to control these pollutants.

Subject to the Department's review and approval, the Contractor prepares the SWPPP. Because the SWPPP is not prepared at this time, the following discussion focuses on anticipated pollution sources or activities that may cause pollutants in storm water discharges.

The California EPA (Cal EPA) has delegated administration of the federal NPDES program to the SWRCB and nine regional boards. This project is located within the jurisdiction of both the SWRCB and the San Diego Regional Water Quality Control Board (RWQCB).

Affected Environment

A Water Quality Technical Study was prepared by the Department in November 2006. A summary of the report is provided below. Detailed information regarding the water quality and storm water runoff is provided in the *Water Quality Technical Study* (November 2006).

Orange County's climate is classified as Mediterranean with cool, dry summers and mild, wet winters. The current rainy season in the project area, as defined by the San Diego RWQCB, is from October 1 through May 1. However, most rainfall occurs during the winter season, December through February (Department of Water Resources, 1971). Rainfall in the project area averages approximately 13 inches (33 centimeters) annually. The peak monthly rainfall in the project vicinity generally occurs between January and February, with an average peak rainfall intensity of approximately 5.5 inches (14 centimeters) in 24 hours.

Surface Water

Runoff from the project site currently discharges into San Juan Creek via natural surface drainage and underground storm drain systems. San Juan Creek has a drainage area of approximately 176 square miles (456 square kilometers). The creek contains 6 reaches and originates in the Santa Ana Mountains of the Cleveland National Forest; the creek flows approximately 27 miles (43.4-kilometers) to the Pacific Ocean (Orange County Flood Control District [OCFCD], 1970). The proposed project is located within Reach 5 of San Juan Creek. The surrounding area within the Project Limits consists primarily of developed land with impervious surface. There are few remaining natural drainage features.

San Juan Creek has been documented as having poor surface water quality (United States Army Corps of Engineers [ACOE], 1997). The San Diego SWRCB designated the lower portion of the creek, including the creek mouth, as impaired for bacteriological indicators under Section 303(d) of the CWA.

Surface water quality in the San Juan Creek watershed is primarily influenced by non-point sources of non-storm water runoff from urban and residential developments. Contaminants affecting the watershed include various vehicle-related pollutants such as oil, grease, and other petroleum products from roadways. Other pollutants that also affect the watershed include illicit dumping, pesticides, herbicides, and fertilizers from parks, residential homes, and golf courses. Contaminated runoff from irrigated agricultural lands in the watershed also contributes to the poor surface water quality in San Juan Creek. Currently, wastewater treatment facilities do not contribute pollutants to the watershed because all effluents from these facilities are discharged directly into the Pacific Ocean.

Groundwater

Groundwater in the San Juan Creek Watershed exists unconfined in a generally narrow, shallow, alluvium-filled valley in the San Juan Canyon area and its tributaries. The depths of the alluvial fill range from 200 ft. (61 m) at the coast to zero feet at the end of the main canyon tributaries in the Santa Ana Mountains.

The Cristianitos Fault is the main structural feature influencing the movement of groundwater within the watershed. Current total groundwater storage capacity is estimated at 63,220 acre-feet; 21,620 acre-feet for the Upper San Juan Basin and 41,600 acre-feet for the Lower San Juan Basin (ACOE, 2002)

Recharge for the groundwater basins consists of subsurface inflow from the tributary alluvial riverbed areas; streambed percolation from San Juan and Trabuco Creeks; rainfall infiltration and percolation; and percolation from landscape and agricultural irrigation. The total basin inflow is estimated at 90,000 acre-feet per year. Outflow from the basins consists of well extractions, extractions from deep-rooted plants, and subterranean outflow at the river mouth. The total basin outflow of groundwater is estimated at 10,500 acre-feet per year.

Currently, only two water districts are actively pumping groundwater for supplemental domestic use. The Capistrano Valley Water District receives approximately 30 percent of their total water supply via groundwater and the Trabuco Creek Water District receives approximately 15 percent of their total water supply via groundwater (ACOE, 2002).

Groundwater in the San Juan Basin is considered poor due to the high levels of dissolved solids and salt. The problem is primarily related to the high salt content in the water-bearing sediments and not pollution from human sources. Therefore, local water agencies tend to favor the use of imported water for domestic needs, with pumped groundwater as the supplemental source (ACOE, 2002).

Impacts

No Build Alternative

The No Build Alternative does not contain construction elements or roadway improvements. Traffic projections conducted by the Department indicate that motor vehicle volume on SR-74 is expected to increase. Subsequently, the amount of motor vehicle related pollutants discharged into the watershed and drainage channels from SR-74 is expected to increase in the long term with the No Build Alternative.

Build Alternative

The Build Alternative would not substantially alter the existing pattern of natural surface drainage in the project area. In addition, it would not substantially contribute to the exceedance of any adopted water quality standard or conflict with the objectives, plans, goals, policies, or implementation of the *San Diego Regional Water Quality Control Board's Basin Water Quality Control Plan* (1998).

During construction, the Build Alternative would require approximately 4.54 acres (1.84 hectares) of soil disturbance. The overall increase in road surface would be approximately 2.3 acres (0.93 hectares). Currently, areas adjacent to SR-74 within the Project Limits are covered primarily by impervious surfaces such as asphalt and concrete, with some natural drainage features. The average runoff coefficient for the Project Limits would increase from 0.87 pre-construction to 0.88 post-construction. Erosion and siltation in the drainage area may temporarily increase during project construction. The amount of sediments entering the San Juan Creek Watershed in the project area is expected to be minimal with the implementation of the SWPPP and temporary construction site BMPs (*Caltrans Storm Water Quality Handbooks, Construction Site Best Management Practices Manual*, March 2003).

The San Juan Creek is outside the Project Limits (to the south) and is a likely source for groundwater. The groundwater level at San Juan Creek Bridge is approximately 50 feet (15 meters) below the surface at an elevation of 111 ft. (34.05 m) above sea level.

Dewatering discharge could adversely impact surface water quality if the effluent is rich in sediment or contaminated with chemicals. Extracted groundwater may contain pollutants which may be a result of the decomposition of organic materials (e.g., hydrogen sulfide); leaking underground storage tanks and fuel lines; surface spills; sewage; past use of liquid waste impoundments; or the potential presence of nutrients (phosphorous and nitrogen compounds). If construction-related dewatering discharges are encountered, the project would be subject to the *General Waste Discharge Requirements for Groundwater Extraction Waste Discharges from Construction, Remediation, and Permanent Groundwater Extraction Projects to Surface Waters within the San Diego Region Except for San Diego Bay*, Permit (Order No. 2001-96, NPDES No. CAG919002). Results from soil boring samples would determine if dewatering is required within the proposed Project Limits.

Traffic projections conducted by the Department indicate that motor vehicle volume on SR-74 is expected to increase in the future. This would occur with or without the proposed project. Consequently, the amount of motor vehicle related pollutants discharged into the watershed and drainage channels from the highway is expected to increase with or without implementation of the proposed project. The increase in the amount of motor vehicle related pollutants would not substantially affect surface water quality provided that temporary and/or permanent mitigation measures are incorporated into the project plans. The amount of pollutants created from traffic congestion during peak periods may decrease due to the relief in current traffic congestion that the proposed project is expected to provide.

The increased areas of impervious surface associated with the proposed SR-74 improvements would divert runoff from pervious areas of natural drainages into constructed drainages. Less runoff would be allowed to percolate into the local portion of the groundwater basin. Although this amount of runoff may be available for recharge into the groundwater basin via streambed percolation during storm events, it is unlikely that this would occur due to the increased rate of streamflow. As the increased area of impervious surface is extremely small in comparison to the local watershed, the proposed project is not expected to have a significant impact on local groundwater resources and quality.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative does not contain any construction elements and would not change existing hydrologic conditions; no avoidance, minimization, or mitigation measures are proposed for this alternative.

Build Alternative

Construction Period (Short-term)

- The Contractor shall conform to the requirements of the Department's Statewide NPDES Storm Water Permit, Order No. 99-06-DWQ, NPDES No. CAS000003, adopted by the State Water Resources Control Board (SWRCB) on July 15, 1999, in addition to the BMPs specified in the Caltrans *Storm Water Management Plan* (SWMP). When applicable, the Contractor shall also conform to the requirements of the General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, NPDES No. CAS000002, and any subsequent General Permit in effect at the time of project construction.

- An SWPPP shall be prepared by the Contractor and reviewed by the Department for approval prior to the commencement of any soil-disturbing activities. The SWPPP shall address all state and federal storm water control requirements and regulations. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall include Best Management Practices (BMPs) to control pollutants, sediment from erosion, storm water runoff, and other construction-related impacts. In addition, the SWPPP shall include the provisions of *SWRCB Resolution No. 2001-046,* which requires implementation of specific Sampling Analysis Procedures (SAP) to ensure that the implemented BMPs are effective in preventing exceedance of any water quality standards.

- A Notification of Construction (NOC) form shall be filed with the San Diego Regional Water Quality Control Board at least 30 days prior to any soil-disturbing activities.

- All work shall conform to the Construction Site BMP (Category II) requirements specified in the latest edition of the Caltrans *Storm Water Management Plan* (SWMP) to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs. For a complete list, refer to Section 2 of the Department's SWMP (May 2003) and Section 4 of the Caltrans Statewide Storm Water Quality Practice Guidelines (May 2003).

- Construction activities shall give special attention to storm water pollution control during the "Rainy Season" (defined by the RWQCB as October 1st through May 1st). No work will be conducted whenever rain is predicted. Water Pollution Control BMPs shall be used to minimize impact to receiving waters. Measures shall be incorporated to contain all vehicle loads and to avoid any tracking of materials, which may fall or blow onto the Department's right–of-way.

- If dewatering is required, the project shall fully conform to the requirements of the San Diego RWQCB. A Dewatering/DeMinimus Permit shall be obtained and the RWQCB shall be notified at least 60 days prior to any dewatering discharges. Dewatering BMPs shall be used to control sediments and pollutants. An EPA-certified laboratory shall test and monitor the discharge for compliance with the requirements of the RWQCB.

Post-construction Period (Long-term)

The Caltrans *Storm Water Management Plan* (SWMP) describes BMPs and practices to reduce the discharge of pollutants associated with the storm water drainage systems of state highways, facilities, and activities. The District 12 Storm Water Advisory Team would evaluate the project plans for the SR-74 widening before considering any BMP requirements. The completed project plans would incorporate all necessary Maintenance BMPs (Category IA), Design Pollution BMPs (Category IB), and Treatment BMPs (Category III) to meet the Maximum Extent Practical (MEP) requirements.

- Maintenance BMPs − This category includes routine maintenance work such as litter pickup, toxics control, street sweeping, drainage, and channel cleaning.

- Design Pollution Prevention BMPs − This category includes all permanent soil stabilization systems such as preservation of existing vegetation, concentrated flow conveyance systems (e.g., drainage ditches, dikes, berms, swales), and slope/surface protection systems that utilize either vegetated or hard surfaces. Final determination regarding the selection of Design Pollution Prevention BMPs would occur during the Plan's Specifications & Estimates (PS&E) Process.

- Treatment BMPs − This category includes all permanent treatment devices and facilities such as biofiltration strips/swales, infiltration basins, detention devices, traction sand traps, dry weather flow diversion, and Gross Solids Removal Devices (GSRDs). Final determination regarding the selection of Treatment BMPs would occur during the Plan's Specifications & Estimates (PS&E) Process.

A complete list of all applicable BMPs is provided in the latest version of the Caltrans *Storm Water Management Plan* (May 2003).

2.2.3 Geology/Soils/Seismic/Topography

Regulatory Setting

Topographic and geologic features are assessed in accordance with CEQA. This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department's Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE) magnitude from active faults in and near California. The MCE is defined as the largest earthquake that can be reasonably expected to occur on a fault under presently known conditions.

Affected Environment

The Department's Division of Geotechnical Services prepared a Preliminary Geotechnical Report in August 2006. A summary of the report is provided below. More detailed information regarding the topics discussed below is provided in the *Preliminary Geotechnical Report* (August 2006).

Regional Geology

The topography within the Project Limits generally slopes down from the north to the south. The roadway is at a shallow grade and gradually increases in elevation from west to east.

The project area is located in the Peninsular Ranges geomorphic province at the extreme southeastern margin of the Los Angeles Basin and lies between the Santa Ana Mountains and the San Joaquin Hills. The Peninsular Ranges geomorphic province is characterized by northwest- to southwest-trending faults which run roughly parallel to the San Andreas Fault Zone. The project area lies between the Cristianitos Fault Zone and the Laguna Canyon Fault Zone, neither of which is considered active.

Site Geology

Quaternary alluvium, terrace, and river deposits lie beneath the project area. Analysis conducted for The Ranch Plan project (which is east of the project site and outside the Project Limits) identified subsurface materials consisting of dense gravelly sand and sandy gravel with scattered cobbles and some areas of silt and clay. Capistrano Formation bedrock is expected to underlie the alluvium and terrace deposits.

Erosion and Scour

The natural slopes within the project site are covered with material which is granular in nature (i.e., sand and gravel). Slopes are typically covered with vegetation. Where cuts are proposed, the slope faces will be protected by retaining walls.

Scour occurs when a current or flow of water moves mud or granular material from a stream or riverbed. The nearest waterway is the San Juan Creek, which crosses under SR-74 at the Lower San Juan Creek Bridge, east of and outside the Project Limits.

Seismicity

As with all of southern California, the project is located in a seismically active area. The geologic processes that have caused earthquakes in the past can be expected to continue. Located approximately 5.8 mi (9.4 km) from the site, the San Joaquin Hills Fault is the controlling fault for this area and has a MCE magnitude of 7.0. A magnitude 7.0 event would give a peak bedrock acceleration of about 0.5g and a peak ground acceleration of 0.42g. The San Joaquin Hills Fault is a blind thrust, so there is no well-defined surface rupture.

A fault is considered active by the State of California if geologic evidence indicates that movement on the fault has occurred in the last 11,000 years, and potentially active if movement is demonstrated to have occurred in the last 2 million years. The closest active fault pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (APEFZA) is the Whittier-Elsinore Fault Zone. This fault trends in a northwest-southeast direction. A closest segment of the fault has been zoned active under APEFZA is approximately 25 miles (40 km) northeast of the project site.

Tsunamis/Seiches

A tsunami is defined as a gravitational sea wave produced by any large scale disturbance of the sea floor. A seiche is defined as a free or standing wave oscillation of the water surface of an enclosed body of water. Because the project site is over 4.5 miles (7.2 k.) from a large water body, the Pacific Ocean, no adverse impacts related to tsunamis or seiches would be expected.

Rockfall and Landslide

Portions of the project area fall within zones that have been identified as being at an increased risk for rockfall and landslides. In the project area, the low height of rock slopes makes the likelihood of a rockfall minimal. Landslide risks will not increase as a result of this project or the construction activities associated with the project.

Geothermal Activity

There is no known geothermal activity within the Project Limits.

Geologic Structure

Alluvium underlies the project area. The depth to "bedrock-like" material is not known at this time and would be determined during the final geotechnical investigation.

Corrosion

The corrosivity of soils at the site is unknown and would be tested during the final geotechnical investigation.

Groundwater

The groundwater levels beneath the project site are unknown and would be measured during the final geotechnical investigation.

Geotechnical Engineering Considerations

Certain geotechnical and geo-hydrological factors that are critical for the proposed widening and retaining walls would be further analyzed during the final design stage. They are:

- Liquefaction—Portions of the project area are within zones that have been identified as being at an increased risk of liquefaction.

- Retaining Wall—The preliminary geotechnical report analyzed four types of retaining walls. They are: Type 1 retaining wall, soil nail wall, soldier pile wall, and secant/tangent wall. During the design phase, a detailed study would be conducted to finalize the type of retaining wall. Regardless of the wall type, the walls would be treated with aesthetic treatment.

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component and would not alter existing geologic or soil conditions; therefore, it would not affect geological, mineral, or soil resources.

Build Alternative

The project is expected to have a minimal impact on geologic and topographic. The Build Alternative would not increase exposure to geologic hazards such as erosion, scour, and earthquakes. The proposed project is, however, located in an area that may be subject to liquefaction.

The proposed project location is north of San Juan Creek and is separated from the creek by existing residential development. In the long term, the Build Alternative is not expected to substantially change the existing rate of erosion. A temporary increase in erosion may occur during construction. As discussed in Section 2.2.2 – Water Quality and Stormwater Runoff, implementation of erosion control BMPs in the SWPPP would minimize these impacts.

Furthermore, the project is not located within an APEFZA area, and no well-defined fault traces have been mapped within the Project Limits. The possibility of surface rupture from an earthquake is considered low. However, the Department's design standards include measures and considerations for possible seismic activity.

During the final design phase, a Geotechnical Design Report would be prepared which would provide detailed analyses for the various design features including but not limited to retaining walls and sound walls.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative does not contain a construction component and would not affect existing geologic, mineral, or soil resources. No avoidance, minimization, or mitigation measures are proposed.

Build Alternative

Erosion control measures discussed in Section 2.2.2 – Water Quality and Storm Water Runoff, also apply to geology and soils to minimize erosion. Based on additional borings conducted as a part of the PS&E, if it is determined that liquefaction is a factor within the Project Limits, the project shall incorporate deepening of the foundation and/or increasing the depth of piles.

2.2.4 Paleontology

Regulatory Setting

Paleontology is the study of life in geologic time based on fossil plants and animals. Several laws regulate impacts to both archaeological and paleontological resources. Some of these regulations are: CEQA and the California Public Resource Code §5097.5.

Affected Environment

A *Paleontology Report* was prepared by the Department's Central Coast Technical Studies Branch in November 2006. A summary of the report is provided below. For more detailed information regarding paleontology, refer to the November 2006 *Paleontology Report*.

The project area is set in San Juan Canyon, a northeast-southwest trending canyon formed by San Juan Creek. The southern portion of SR-74 in the project area is set against the hills that border the canyon to the north. Throughout the project area, the elevation ranges from 149 to 283 ft. (45 to 86 m).

The following formations underlay the project area according to the geologic map of Orange County, California:

- Quaternary alluvium and colluvium
- Non-marine terrace deposits
- Upper Miocene Capistrano Formation
- Miocene Monterey Formation

Impacts

No Build Alternative

Since the No Build Alternative does not involve a construction element, there is no potential for encountering paleontological resources.

Build Alternative

The potential for sensitive resources to be found in the project area varies depending on the formation. There is low potential for sensitive paleontological resources in the non-marine terrace deposits, as well as the Quaternary alluvium and Colluvium deposits. There is a high potential for encountering sensitive resources within the Miocene Monterey Formation and the Upper Miocene Capistrano Formation.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

There are no avoidance, minimization, and/or mitigation measures proposed for the No Build Alternative since there is not potential to impact paleontological resources.

Build Alternative

- Because of the potential for excavations in the Capistrano and Monterey Formation where sensitive fossils could occur, monitoring by a qualified Paleontological Monitor shall be required when excavations in these formations take place. After geotechnical borings occur, a determination would be made about whether these formations may be encountered during excavation activities, particularly in the large cut between Stations 85+30 and 111+54.

- If any vertebrate or plant paleontological resources are discovered during construction, construction shall be halted in the immediate vicinity of the discovery (33 ft. radius), until the Department Archaeologist, Paleontology Coordinator, or the designated Paleontological Monitor have the opportunity to review the discovery.

- Remediation of any sensitive resources encountered before or during construction can include removal, preparation, and curation of any significant remains.

2.2.5 Air Quality

Regulatory Setting

The Clean Air Act (CAA), as amended in 1990, is the federal law that governs air quality. Its California counterpart is the California Clean Air Act (CCAA) of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2).

Under the 1990 CAA Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to the State Implementation Plan (SIP) for achieving the goals of the CAA requirements. Conformity with the CAA takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and particulate matter (PM). California is in attainment for the other criteria pollutants (i.e., Pb and SO_2). At the regional level, Regional Transportation Plans (RTPs) are developed that include all the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether the implementation of those projects would conform to emission budgets or other tests showing that

attainment requirements of the CAA are met. If the conformity analysis is successful, the regional planning organization (such as SCAG) and the appropriate federal agencies (such as the FHWA) make the determination that the RTP is in conformity with the SIP for achieving the goals of the CAA. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

In general, projects must not cause the pollutant standard to be violated and, in "nonattainment" areas, a project must not cause any increase in the number and severity of violations. If a known violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s). Conformity at the project-level also requires a "hot spot" analysis if an area is considered a "nonattainment" or "maintenance" area for CO and/or particulate matter. A region is a "nonattainment" area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called "maintenance" areas. On May 11, 2007, the USEPA announced approval of the Redesignation Request and Maintenance Plan and that, effective June 11, 2007, the SCAB would be redesignated as an attainment/maintenance area for the federal CO NAAQS. The plan provides for maintenance of the federal CO air quality standard until at least 2015 and commits to revising the plan in 2013 to ensure maintenance through 2025. Prior to June 11, 2007, the Department had prepared a CO "hot spot" analysis. Although the analysis is no longer required, it is provided in this document for informational purposes.

Regulations and Standards

Pursuant to the Federal CAA of 1970, the USEPA established NAAQS for several major pollutants, termed "criteria" pollutants. The six criteria pollutants are: O_3, CO, PM_{10}, NO_2, SO_2, and Pb. These pollutants are referred to as criteria pollutants because numerical criteria have been established for each pollutant, which define acceptable levels of exposure. Table 2.2.5-1 identifies the federal and State standards of these pollutants and their attainment status.

Table 2.2.5-1
National and California Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Extreme Nonattainment	N/A[5]	N/A
	8 Hours	0.07 ppm (137 µg/m^3)	Unclassified	0.08 ppm (157 µg/m^3)	Severe Nonattainment
Particulate Matter (PM10)	24 Hours	50 µg/m^3	Nonattainment	150 µg/m^3	Serious Nonattainment
	Annual Arithmetic Mean	20 µg/m^3	Nonattainment	50 µg/m^3	Serious Nonattainment
Fine Particulate Matter (PM2.5)	24 hours	65 µg/m^3	Nonattainment	65 µg/m^3	Nonattainment
	Annual Arithmetic Mean	12 µg/m^3	Nonattainment	15 µg/m^3	Nonattainment
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Nonattainment[6]
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Nonattainment[6]
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	N/A	N/A	0.053 ppm (100 µg/m^3)	Attainment
	1 Hour	0.25 ppm (470 µg/m^3)	Attainment	N/A	N/A
Lead (Pb)	30 Days Average	1.5 µg/m^3	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m^3	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (80 µg/m^3)	Attainment
	24 Hours	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	3 Hours	N/A	N/A	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m^3)	Attainment	N/A	N/A
Visibility-Reducing Particulates	8 Hours (10 a.m. to 6 p.m., PST)	Extinction Coefficient=0.23 km@<70% RH	Unclassified	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	Attainment		
Hydrogen Sulfides	1 Hour	0.03 ppm (42 µg/m^3)	Unclassified		

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur oxide (1 and 24-hour), nitrogen dioxide, suspended particulate matter (PM10), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equal or exceeded. CAAQS are listed in the Table of Standards in 17 CCR 70200. In 1990, the California Air Resources Board (CARB) identified vinyl chlorides as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specific in the 1978 standards.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. EPA also may designate an area as attainment/unclassifiable if: 1) it has monitored air quality data that show that the area has not violated the ozone standards over a three-year period; 2) there is not enough information to determine the air quality in the area. For PM10, the 24-hour standard is attained when 99% of the daily concentrations averaged over the three years are equal or less than standards. For PM2.5, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than standard.

3 Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a referenced temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; ppm in this table refers to ppm by volume, or micro moles of pollutant per mole of gas.

4 National Primary Standards, the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

5 The Federal 1-Hour ozone standard was revoked on June 15, 2005.

6 Technically, the basin is in attainment for CO; however, it has not been predestinated by EPA.

Source: California Air Resources Control Board, EPA, 2005

The California Air Resources Board (CARB) administers the air quality policy in California. The CAAQS were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 2.2.5-1, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The CCAA, which was approved in 1988, requires that each local air district prepare and maintain an air quality management plan (AQMP) to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparation of the SIP for the State of California.

Climate Change

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas[5] (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-

[5] Greenhouse gases related to human activity include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

Affected Environment

An *Air Quality Assessment Report* was prepared by the Department in November 2006 to evaluate potential short-term and long-term air quality impacts resulting from implementation of the proposed SR-74 project. The air quality analysis is based on the project as it is defined in the 2006 Federal Transportation Improvement Program (FTIP).

The proposed project is located within the South Coast Air Basin (Basin). The Basin is characterized as having a "Mediterranean" climate (a semi-arid environment with mild winters, warm summers and moderate rainfall). The Basin is a 6,600-square-mile area bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. Its terrain and geographical location determine the distinctive climate of the Basin, as the Basin is a coastal plain with connecting broad valleys and low hills.

The general region lies in the semi-permanent, high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

Climate

The average annual temperature varies little throughout the Basin at about 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100 degrees in recent years. January is usually the coldest month at all locations while July and August are usually the hottest months of the year. Although the Basin has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by off-shore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. The annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

Temperature Inversion

The proposed project area, as with all of southern California, is susceptible to air inversions. An air inversion occurs when a layer of stagnant air is trapped near the ground where it is further loaded with pollutants. These inversions result in haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

Regional Air Quality Conformity

This project is included in the 2006 FTIP and is proposed for funding from the State Transportation Improvement Program/Inter-Regional Improvement Program (STIP/IIP), the 20.10.025.700 program, and other Local Funding Sources. It is also included in the SCAG 2004 Regional Transportation Plan (RTP) and the 2006 Regional Transportation Improvement Program (RTIP).

Local Air Quality

The CARB maintains monitoring stations throughout the Basin to monitor concentrations of criteria pollutants in the air. The nearest CARB monitoring station to the project is located at 26081 Via Pera in Mission Viejo, California. The following air quality information briefly describes the various types of pollutants monitored within the vicinity of the Project Study Area. Table 2.2.5-2 provides monitored, published ambient air quality data for the last five years available (2001–2005).

- Carbon Monoxide (CO): Carbon monoxide is a colorless and odorless gas. The automobile and other types of motor vehicles are the main source of this pollutant in the Basin. CO concentrations are generally higher along roadways especially in the early mornings.

- Ozone (O_3): Ozone is a colorless gas with a sharp odor. It is one of a number of substances called photochemical oxidants (a highly reactive secondary pollutant). These oxidants are formed when hydrocarbons, NOx and related compounds, interact in the presence of ultraviolet sunlight.

- Nitrogen Dioxide (NO_2): NO_2 is a reddish-brown gas with an odor similar to bleach and is the by-product of fuel combustion, which results from mobile and stationary sources. It has complex diurnal concentrations that are typically higher at night.

- Sulfur Dioxide (SO_2): SO_2 is a colorless gas with a sharp, irritating odor and results from the combustion of sulfur-containing fossil fuels from mobile and stationary sources. Diurnal concentrations are complex, but are typically higher at night.

- Coarse Particulate Matter (PM10): PM10 refers to suspended particulate matter, which is smaller than 10 microns or ten one millionths of a meter. PM10 arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM10 scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract.

- Fine Particulate Matter (PM2.5): Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and federal PM2.5 standards have been created. Particulate matter primarily affects infants, children, the elderly, and those with pre-existing cardiopulmonary disease.

Table 2.2.5-2
Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO)	9.0 ppm for 8 hours	9 ppm for 8 hours	2001[4]	3.76 ppm	0/0
			2002[3]	5.26 ppm	0/0
			2003[3]	3.89 ppm	0/0
			2004[3]	4.09 ppm	0/0
			2005[3]	3.13 ppm	0/0
Ozone (O_3) (1-Hour)	0.09 ppm for 1 hour	N/A	2001[3]	0.107 ppm	2/NA
			2002[3]	0.103 ppm	3/NA
			2003[3]	0.136 ppm	11/NA
			2004[3]	0.120 ppm	14/NA
			2005[3]	0.095 ppm	1/NA
Ozone (O_3) (8-Hour)	0.07 ppm for 8 hour	0.08 ppm for 8 hour	2001[3]	0.07 ppm	NA/0
			2002[3]	0.078 ppm	NA/0
			2003[3]	0.087 ppm	NA/1
			2004[3]	0.097 ppm	NA/8
			2005[3]	0.077 ppm	NA/0
Nitrogen Dioxide (NOx)	0.25 ppm for 1 hour	N/A	2001[3]	0.120 ppm	0/NA
			2002[3]	0.100 ppm	0/NA
			2003[3]	0.127 ppm	0/NA
			2004[3]	0.122 ppm	0/NA
			2005[3]	0.089 ppm	0/NA
Sulfur Dioxide[2] (SOx)	0.25 ppm for 1 hour	0.14 ppm for 24 hours or 0.03 ppm annual arithmetic mean	2001[2]	0.005 ppm	0/0
			2002[2]	0.011 ppm	0/0
			2003[2]	0.012 ppm	0/0
			2004[2]	0.008 ppm	0/0
			2005[2]	0.008 ppm	0/0
Particulate Matter (PM10)[5]	50 $\mu g/m^3$ for 24 hours	150 ug/m^3 for 24 hours	2001[3]	62.0 $\mu g/m^3$	3/0
			2002[3]	69.0 $\mu g/m^3$	5/0
			2003[3]	96.0 $\mu g/m^3$	6/0
			2004[3]	74.0 $\mu g/m^3$	7/0
			2005[3]	65.0 $\mu g/m^3$	3/0
Fine Particulate Matter (PM2.5)	65 $\mu g/m^3$ for 24 hours	65 ug/m^3 for 24 hours	2001[3]	70.8 $\mu g/m^3$	NA/1
			2002[3]	68.6 $\mu g/m^3$	NA/1
			2003[3]	115.5 $\mu g/m^3$	NA/3
			2004[3]	58.9 $\mu g/m^3$	NA/0
			2005[3]	54.7 $\mu g/m^3$	NA/0

ppm	Parts per million
$\mu g/m^3$	Micrograms per cubic meter
PM10	Particulate matter 10 microns in diameter or less
PM2.5	Particulate matter 2.5 micron or less
N/A	Not applicable
1	Max concentration is measured over the same period as the California Standard.
2	Measurement taken at the Costa Mesa Monitoring Station.
3	Measurement taken at the Anaheim Monitoring Station.
4	PM10 exceedances are based on the State threshold established prior to amendments adopted on June 20, 2002.
5	PM10 and PM2.5 exceedances are derived from the number of samples exceeded, not days.
Source	California Air Resources Board, ADAM Air Quality Data Statistics, www.arb.ca.gov/adam/welcome.html

- Lead (Pb): In the Basin, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes to less than one percent of the material collected as total suspended particulate matter. Atmospheric lead concentrations have been substantially reduced in recent years due to the lowering of average lead content in gasoline.

Climate Change

According to a recent white paper by the Association of Environmental Professionals[6], "an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the *Climate Action Program at Caltrans* (December 2006).

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions.

Impacts

No Build Alternative

There would be no short-term impacts on air quality under the No Build Alternative since there would be no construction activities related to this alternative. Traffic congestion would continue

to increase and level of service operations of nearby roadways and intersections would deteriorate and traffic congestion would worsen. Long-term mobile emissions generated by vehicle trips would be greater under the No Build Alternative due to reduced traffic flow in the project area.

Build Alternative

Short-term Impacts

Construction activities associated with the Build Alternative would be temporary. Short-term air quality impacts would occur during minor grading/trenching, new pavement construction, and the restriping phase. Additional sources of construction-related emissions include:

- Exhaust emissions and potential odors from construction equipment used on the construction site and vehicles used to transport materials to and from the site.
- Exhaust emissions from the motor vehicles of the construction crew.

Stationary or mobile-powered on-site construction equipment includes trucks, tractors, signal boards, excavators, backhoes, concrete saws, crushing and/or processing equipment, graders, trenchers, pavers, and other paving equipment.

Long-term Impacts

CO and PM are the pollutants of major concern along roadways. For this reason, CO and PM concentrations are used as an indicator of project impacts on local air quality and are usually indicative of the local air quality generated by a roadway network.

The Department document, *Transportation Project-Level Carbon Monoxide Protocol* (1997) (Protocol) was used to determine if a CO hot spot analysis would be required. The Protocol provides two conformity requirement decision flowcharts that are designed to assist the project sponsor(s) in evaluating the requirements that apply to specific projects. The area affected by the project is expected to experience a much lower CO concentration than the worst-case

[6] Hendrix, Micheal and Wilson, Cori. *Recommendations by the Association of Environmental Professionals (AEP) on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), p. 2.

intersection in the 2003 AQMP. Results of the CO qualitative analysis in the *Air Quality Assessment Report* concluded that the project is satisfactory and no further analysis is necessary.

A determination of whether the project would result in potential impacts on PM10 levels was performed based on FHWA and EPA guidance as summarized in the *Particulate Matter and Transportation Projects, an Analysis Protocol* (PM10 Protocol), most recently revised in February 2005 by the University of California, Davis. Results of the qualitative analysis in the *Air Quality Assessment Report* concluded that the Build Alternative would not contribute to a PM10 hot spot that would cause or contribute to a violation of the federal PM10 standard.

To determine if PM2.5 hot spot analysis was required, the *Air Quality Assessment Report* was sent to members of the conformity Interagency Consultation Group for the nonattainment area (SCAG Conformity Working Group) for review. The analysis was sent and reviewed at the meeting of August 2006 and it was concluded that the project is Not a Project of Air Quality Concern. The Interagency Consultation group concurred in the planning assumptions, methods, and results of the analysis. No further qualitative analysis for PM2.5 is required (See Appendix B).

The Intergovernmental Panel on Climate Change's (IPCC) report, *Climate Change 2007: The Physical Science Basis: Summary for Policymakers* (February 2007), identifies that the climate system is warming. Global average air and ocean temperatures are increasing and the global average sea level is rising. Of the last 12 years, 11 have ranked among the warmest on record since 1850. While some of the increase is explained by natural occurrences, the IPCC 2007 Report asserts that the increase in temperatures is very likely (> 90 percent) due to human activity, most notably the burning of fossil fuels.

Climate Change

The Department recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in GHG emissions levels, including carbon dioxide, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, the Department is unable to provide a scientific or regulatory

based conclusion regarding whether the project's contribution to climate change is cumulatively considerable."

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement AB 1493 and AB 32. As part of the *Climate Action Program at Caltrans* (December 2006), the Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However it is important to note that the control of the fuel economy standards is held by the United States Environmental Protection Agency and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the University of California Davis. The proposed project would improve the level of service within the study area, which would reduce carbon dioxide.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative does not contain a construction component and would not, therefore, have any short-term impacts on air quality. No avoidance, minimization, or mitigation measures are proposed.

Build Alternative

- In order to minimize construction-related emissions, all construction vehicles and construction equipment shall be required to be equipped with the State-mandated emission control devices pursuant to State emission regulations and standard construction practices. Short-term construction PM10 emissions shall be further reduced with the implementation of required dust suppression measures outlined within SCAQMD Rule 403. Note that Caltrans Standard Specifications for construction [Section 10 and 18 (Dust Control) and Section 39-3.06 (Asphalt Concrete Plants)] shall also be adhered to.

2.2.6 Noise

Regulatory Setting

CEQA requires a No Build versus Build analysis to assess whether a proposed project would have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

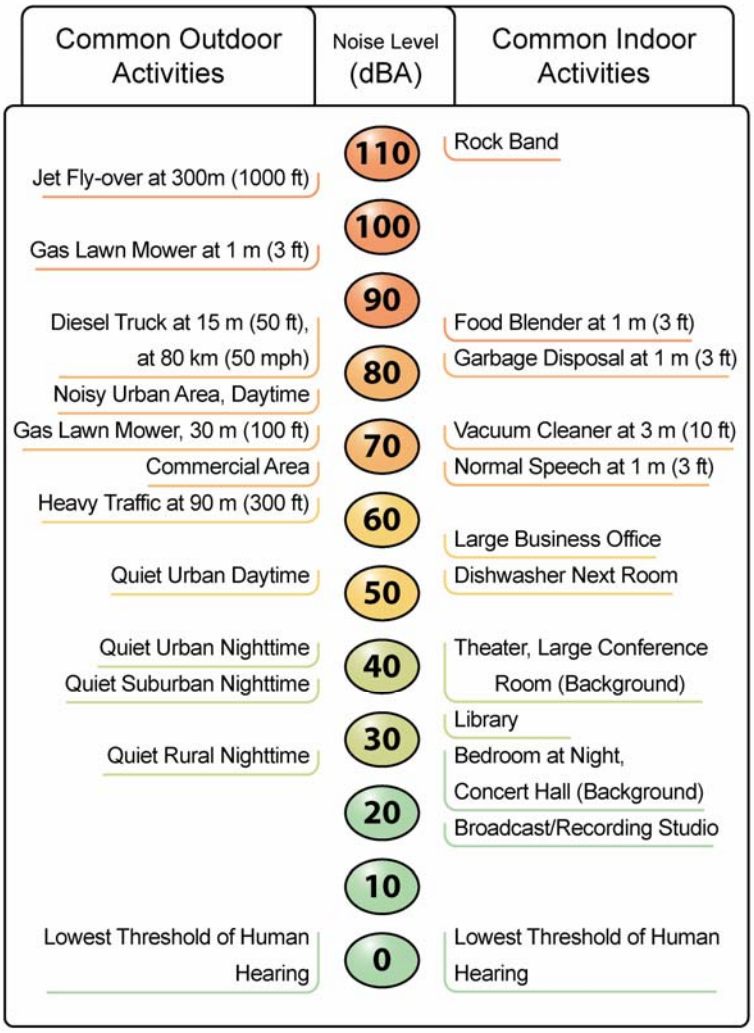
Under CEQA, a substantial noise increase may result in an adverse environmental effect and, if so, must be mitigated or identified as a noise impact for which it is likely that no, or only partial abatement measures are available.

Figure 36 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities. In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 1998*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the Noise Abatement Criteria (NAC). Approaching the NAC is defined as coming within 1 dBA of the NAC, as presented in Table 2.2.6-1.

If it is determined that a project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Based on the Highway Traffic Noise Abatement section of the *Project Development Procedures Manual*, the Department's noise abatement policy addresses the public sensitivity to highway-generated noise and the requirements for considering construction of noise abatement facilities when they are reasonable and feasible.

Figure 36
Noise Levels of Common Activities



The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, and other noise sources and safety considerations. The reasonableness determination is a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies' input, newly constructed development versus development pre-dating 1978 and the cost per benefited residence.

Table 2.2.6-1
Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, dBA L_{eq}(h)	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums
Source: 23 CFR Part 772, 2004		

Affected Environment

The potential impacts on nearby noise sensitive areas resulting from the proposed project were evaluated in the *Final Technical Noise Impact Analysis* prepared by the Department in August 2004, revised in November 2005, and updated by LSA Associates, Inc. in June 2007. The technical reports include areas of analysis both within the City of San Juan Capistrano and the County of Orange. For purposes of this environmental document, only the areas within the Project Limits from Calle Entradero to the City of San Juan Capistrano/County of Orange limits are analyzed in this IS.

Project noise engineers investigated the project area to identify noise sensitive locations and to conduct field noise measurements. Noise measurements were conducted on January 14, 15, 21 and 22, 2004; and February 4, 5, 11 and 12, 2004, to assess the ambient noise levels in the project area.

All noise measurements were conducted according to the guidelines outlined in 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise" and the Department's noise analysis policy described in *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects.*

Within the limits of the project, the area is residential. A total of 42 receiver sites were studied along the eastbound side of SR-74, and 11 sites were studied along the westbound side of SR-74. All the receivers fall under the NAC Category B where 67 dBA is the minimum noise level in residential areas. Figures 37 through 39 show the noise measurement locations within the project area. The existing noise levels of each receiver site on the eastbound and westbound sides of SR-74 presented in Table 2.2.6-2.

The existing and future noise levels (with and without noise barriers) of each receiver site on the eastbound and westbound sides of the highway are presented in Tables 2.2.6-2 and 2.2.6-3, respectively.

The Department conducted a noise survey on May 12, 2006, of potentially affected property owners to determine their preferences with respect to sound wall heights and treatments. The residents were also given a choice on the type of sound wall: masonry or glass walls. The Department has concluded that two noise abatement sound walls would be considered along the south side of SR-74 per the noise study that identified increased ambient noise levels. It is the Department's policy that if the majority (51 percent or more) of the impacted residents are in favor of constructing noise abatement sound walls, the Department will support the proposed glass or sound walls provided they meet all Department noise attenuation, stability, and safety standards. The results of the survey indicated that 84 percent of the respondents are in favor of sound walls. Regarding the type of sound walls, 13 percent preferred glass walls, 19 percent preferred concrete walls, and 68 percent indicated no preference (Appendix B, Department's August 21, 2006 Letter). Since a majority of the surveyed group was in favor of the sound walls, the project would be required to have sound walls in accordance with the Department's noise abatement protocol.

Table 2.2.6-2
Existing Noise Levels of Receivers on Eastbound and Westbound SR-74

No.	SW No.	Rec No.	Land Use	Activity Category	Existing Noise Levels	Critical Receiver No.
Eastbound						
1	SW-1	1	SFR	B(67)	**71.0**	1
2	SW-1	1A	SFR	B(67)	58.0	
3	SW-1	2	SFR	B(67)	61.4	
4	SW-1	2A	SFR	B(67)	55.3	
5	SW-1	2B	SFR	B(67)	54.5	
6	SW-1	3A	SFR	B(67)	53.7	
7	SW-1	R-2, K-1	SFR	B(67)	60.6	
8	SW-1	4	SFR	B(67)	60.3	
9	SW-1	4A	SFR	B(67)	54.3	
10	SW-1	5	SFR	B(67)	59.8	
11	SW-1	5B	SFR	B(67)	63.1	
12	SW-2	6	SFR	B(67)	**68.6**	
13	SW-2	6A	SFR	B(67)	57.1	
14	SW-2	7	SFR	B(67)	**70.7**	7
15	SW-2	7A	SFR	B(67)	56.1	
16	SW-2	8	SFR	B(67)	**65.9**	
17	SW-2	8A	SFR	B(67)	57.5	
18	SW-2	9	SFR	B(67)	**67.0**	
19	SW-2	10	SFR	B(67)	**69.8**	
20	SW-2	10A	SFR	B(67)	58.7	
21	SW-3	11	SFR	B(67)	**70.3**	11
22	SW-3	11A	SFR	B(67)	58.1	
23	SW-3	12	SFR	B(67)	64.3	
24	SW-3	13	SFR	B(67)	65.3	
25	SW-3	13A	SFR	B(67)	56.9	
26	SW-3	14	SFR	B(67)	64.5	
27	SW-3	14A	SFR	B(67)	54.3	
28	SW-3	R-1	SFR	B(67)	63.8	
29	SW-3	15	SFR	B(67)	63.2	
30	SW-3	15A	SFR	B(67)	53.3	
31	SW-3	16 K-3	SFR	B(67)	65.3	
32	SW-3	16A	SFR	B(67)	54.2	
33	SW-3	17	SFR	B(67)	64.4	
34	SW-3	17B	SFR	B(67)	**65.5**	
35	SW-4	17A	SFR	B(67)	59.5	
36	SW-4	18	SFR	B(67)	**67.1**	18
37	SW-4	18A	SFR	B(67)	56.8	
38	SW-4	19	SFR	B(67)	63.9	
39	SW-5	19A	SFR	B(67)	55.3	
40	SW-5	20	SFR	B(67)	63.1	
41	SW-5	21	SFR	B(67)	64.1	21
Westbound						
1	SW-7	22	SFR	B(67)	**69.5**	
2	SW-7	23	SFR	B(67)	**66.7**	
3	SW-7	24	SFR	B(67)	62.4	
4	SW-7	25	SFR	B(67)	**66.3**	
5	SW-7	26	SFR	B(67)	**68.0**	
6	SW-8	27	SFR	B(67)	63.9	

Table 2.2.6-2 (Cont.)
Existing Noise Levels Of Receivers on Eastbound and Westbound SR-74

No.	SW No.	Rec No.	Land Use	Activity Category	Existing Noise Levels	Critical Receiver No.
7	SW-9	28 K4	SFR	B(67)	**67.7**	
8	SW-9	29	SFR	B(67)	**70.5**	29
9	SW-10	30	SFR	B(67)	**71.7**	30
10	SW-10	31 K5	SFR	B(67)	**72.0**	
11	SW-11	32	SFR	B(67)	**69.3**	32

SFR: single-family residence
Numbers in bold represent noise levels that approach or exceed the NAC
* Note: Since the SOUND 2000 model is limited to 40 receptors, Receptors 2B, 5B, and 17B are not shown in the model.
Source: LSA Associates, Inc., June 2007.

Impacts

No Build

Although no actual modeling results were generated for the No Build Alternative, the noisiest hour sound levels for the No Build Alternative are predicted to be slightly higher than existing noise levels.

The No Build Alternative noise predictions are shown in Table 2.2.6-3 in the column labeled "Future (Worst Case)." These numbers are the predicted noise levels which would be produced if no project, and therefore no noise abatement, were provided. The traffic volume without implementation of the project is predicted to be LOS F (see Section 2.1.4 Traffic and Circulation).

Build Alternative

The existing noise levels (Table 2.2.6-2) on the eastbound side of SR-74 varied from 53.3 dBA to 71.0 dBA and on the westbound side from 62.4 dBA to 72.0 dBA. Future noise levels (without noise barriers) along the eastbound side of SR-74 varied from 57.0 dBA to 74.8 dBA, and on the westbound side from 66.2 dBA to 76.4 dBA, which exceeds the NAC of 67 dBA at many locations.

The impact the project would have on noise levels is summarized in Table 2.2.6-3. The shaded boxes with underlined numbers in the table indicate that a noise barrier at that location and

particular height meets the feasibility criteria of 5 dBA reduction. A minimum of 5 dBA noise reduction must be achieved at the impacted receivers in order for the proposed noise abatement measure to be considered feasible.

Based on location, the receivers were assigned a corresponding sound wall number (second column). The sound wall locations can be found on Figures 37 through 39. Based on the noise attenuation values shown in Table 2.2.6-3, a minimum of 5 dBA noise reduction would be achieved for the impacted receivers for sound walls 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, and 13. These sound walls are considered feasible.

Table 2.2.6-3
Existing and Future Noise Levels Of Receivers on Eastbound Side of SR-74 (without wrap-around wall[a])

No.	SW No.	Rec No.	Land Use	Activity Category	Existing Noise Levels	Future (Worst-Case)	With Barrier H = 2.4 m (8 ft)		With Barrier H = 3.05 m (10 ft)		With Barrier H = 3.7 m (12 ft)		With Barrier H = 4.3 m (14 ft)		With Barrier H = 4.9 m (16 ft)		Critical Receiver No.
							L_{eq}	I.L.[b]	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	
1	SW-1	1	SFR[c]	B(67)	**71.0**[d]	**72.8**	**67.6**	5.2[e]	64.9	7.9	62.8	10.0	61.1	11.7	59.9	12.9	1
2	SW-1	1A	SFR	B(67)	58.0	59.7	—[f]	—	—	—	—	—	—	—	—	—	
3	SW-1	2	SFR	B(67)	61.4	63.1	—	—	—	—	—	—	—	—	—	—	
4	SW-1	2A	SFR	B(67)	55.3	57.0	—	—	—	—	—	—	—	—	—	—	
5	SW-1	2B	SFR	B(67)	54.5	56.2	—	—	—	—	—	—	—	—	—	—	
6	SW-1	3A	SFR	B(67)	53.7	55.4	—	—	—	—	—	—	—	—	—	—	
7	SW-1	R-2 K-1	SFR	B(67)	60.6	62.1	—	—	—	—	—	—	—	—	—	—	7
8	SW-1	4	SFR	B(67)	60.3	61.8	—	—	—	—	—	—	—	—	—	—	
9	SW-1	4A	SFR	B(67)	54.3	55.9	—	—	—	—	—	—	—	—	—	—	
10	SW-1	5	SFR	B(67)	59.8	61.3	—	—	—	—	—	—	—	—	—	—	
11	SW-1	5B	SFR	B(67)	63.1	64.7	—	—	—	—	—	—	—	—	—	—	11
12	SW-2	6	SFR	B(67)	**68.6**	**70.0**	64.9	5.1	63.1	6.9	61.6	8.4	60.3	9.7	59.2	10.8	
13	SW-2	6A	SFR	B(67)	57.1	58.8	56.7	2.1	55.6	3.2	54.7	4.1	54.0	4.8	53.4	5.4	
14	SW-2	7	SFR	B(67)	**70.7**	**71.3**	65.3	6.0	63.5	7.8	62.0	9.3	60.6	10.7	59.5	11.8	
15	SW-2	7A	SFR	B(67)	56.1	57.6	55.8	1.8	54.6	3.0	53.4	4.2	52.3	5.3	51.2	6.4	
16	SW-2	8	SFR	B(67)	**65.9**	**65.9**	62.2	3.7	60.8	5.1	59.5	6.4	58.4	7.5	57.5	8.4	
17	SW-2	8A	SFR	B(67)	57.5	58.6	55.3	3.3	53.9	4.7	52.7	5.9	51.8	6.8	50.3	8.3	
18	SW-2	9	SFR	B(67)	**67.0**	**66.2**	64.0	2.2	62.8	3.4	61.8	4.4	61.0	5.2	58.1	8.1	18
19	SW-2	10	SFR	B(67)	**69.8**	**70.0**	**66.3**	3.7	64.9	5.1	63.8	6.2	63.0	7.0	59.4	10.6	
20	SW-2	10A	SFR	B(67)	58.7	59.5	58.0	1.5	56.9	2.6	56.0	3.5	55.2	4.3	52.5	7.0	
21	SW-3	11	SFR	B(67)	**70.3**	**70.7**	**67.3**	3.4	**65.9**	4.8	65.0	5.7	64.3	6.4	59.9	10.8	
22	SW-3	11A	SFR	B(67)	58.1	59.3	58.6	0.7	57.9	1.4	57.3	2.0	56.8	2.5	55.2	4.1	
23	SW-3	12	SFR	B(67)	64.3	65.2	62.5	2.7	61.0	4.2	59.9	5.3	58.9	6.3	57.3	7.9	
24	SW-3	13	SFR	B(67)	65.3	**66.3**	63.5	2.8	61.9	4.4	60.6	5.7	59.4	6.9	58.4	7.9	
25	SW-3	13A	SFR	B(67)	56.9	58.3	56.7	1.6	55.3	3.0	53.9	4.4	52.7	5.6	51.4	6.9	
26	SW-3	14	SFR	B(67)	64.5	**65.6**	63.3	2.3	61.7	3.9	60.4	5.2	59.2	6.4	58.2	7.4	
27	SW-3	14A	SFR	B(67)	54.3	55.7	55.0	0.7	53.7	2.0	52.4	3.3	51.2	4.5	50.1	5.6	
28	SW-3	R-1	SFR	B(67)	63.8	65.0	62.8	2.2	61.3	3.7	60.0	5.0	59.0	6.0	58.1	6.9	
29	SW-3	15	SFR	B(67)	63.2	64.4	62.3	2.1	60.9	3.5	59.7	4.7	58.7	5.7	58.1	6.3	
30	SW-3	15A	SFR	B(67)	53.3	54.9	54.3	0.6	53.1	1.8	51.9	3.0	50.8	4.1	49.8	5.1	
31	SW-3	16 K-3	SFR	B(67)	65.3	**66.4**	63.0	3.4	61.5	4.9	60.1	6.3	59.0	7.4	58.0	8.4	
32	SW-3	16A	SFR	B(67)	54.2	55.7	55.0	0.7	53.9	1.8	52.7	3.0	51.7	4.0	50.9	4.8	
33	SW-3	17	SFR	B(67)	64.4	**65.5**	63.3	2.2	61.7	3.8	60.3	5.2	59.2	6.3	58.2	7.3	
34	SW-3	17B	SFR	B(67)	**65.5**	**66.9**	**66.6**	0.3	**66.0**	0.9	**65.6**	1.3	65.2	1.7	65.0	1.9	

a. Without wrap-around wall for the west end of SW-1, east end of SW-2, and west end of SW-3.

Table 2.2.6-3 (Continued)
Existing and Future Noise Levels Of Receivers on Eastbound Side of SR-74 (without wrap-around wall)

No.	SW No.	Rec No.	Land Use	Activity Category	Existing Noise Levels	Future (Worst-Case)	With Barrier H = 2.4 m (8 ft)		With Barrier H = 3.05 m (10 ft)		With Barrier H = 3.7 m (12 ft)		With Barrier H = 4.3 m (14 ft)		With Barrier H = 4.9 m (16 ft)		Critical Receiver No.
							L_{eq}	I.L.[b]	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	L_{eq}	I.L.	

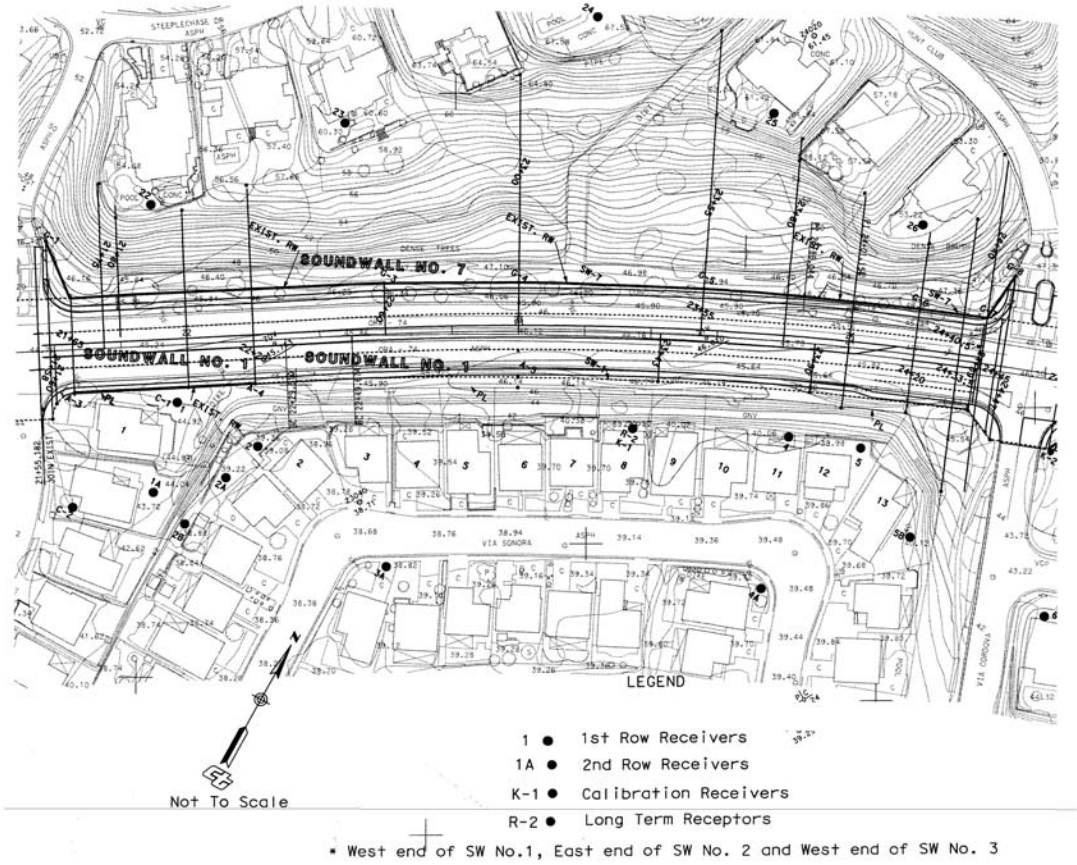
b. I.L.: Insertion Loss.
c. SFR = single-family residence
d. Numbers in bold represent noise levels that approach or exceed the NAC.
e. Numbers underlined and shaded have been attenuated by at least 5 dBA (i.e., feasible wall height)
f. No barrier was analyzed at this location because the modeled receptor would not approach or exceed the NAC.

Source: LSA Associates, Inc., June 2007.
* Note: Since the SOUND 2000 model is limited to 40 receivers, receivers 2B, 5B, and 17B are not shown in the model.

Reasonableness is the second criteria used in determining if a sound wall would be incorporated into the project. The overall reasonableness of noise abatement is determined by considering a multitude of factors including but not necessarily limited to the following: a) cost of the abatement; b) absolute noise levels; c) change in noise levels; d) noise abatement benefits; e) date of development along the highway; f) life cycle of abatement measures; g) environmental impact of abatement construction; h) views (opinions) of impacted residents; i) input from the public and local agencies; and j) social, economic, environmental, legal, and technological factors. The life cycle of the noise abatement (above factor "f") is a consideration in the preliminary reasonableness decision. It is normally not reasonable to construct a wall where planned future use would limit its useful life to less than 15 years.

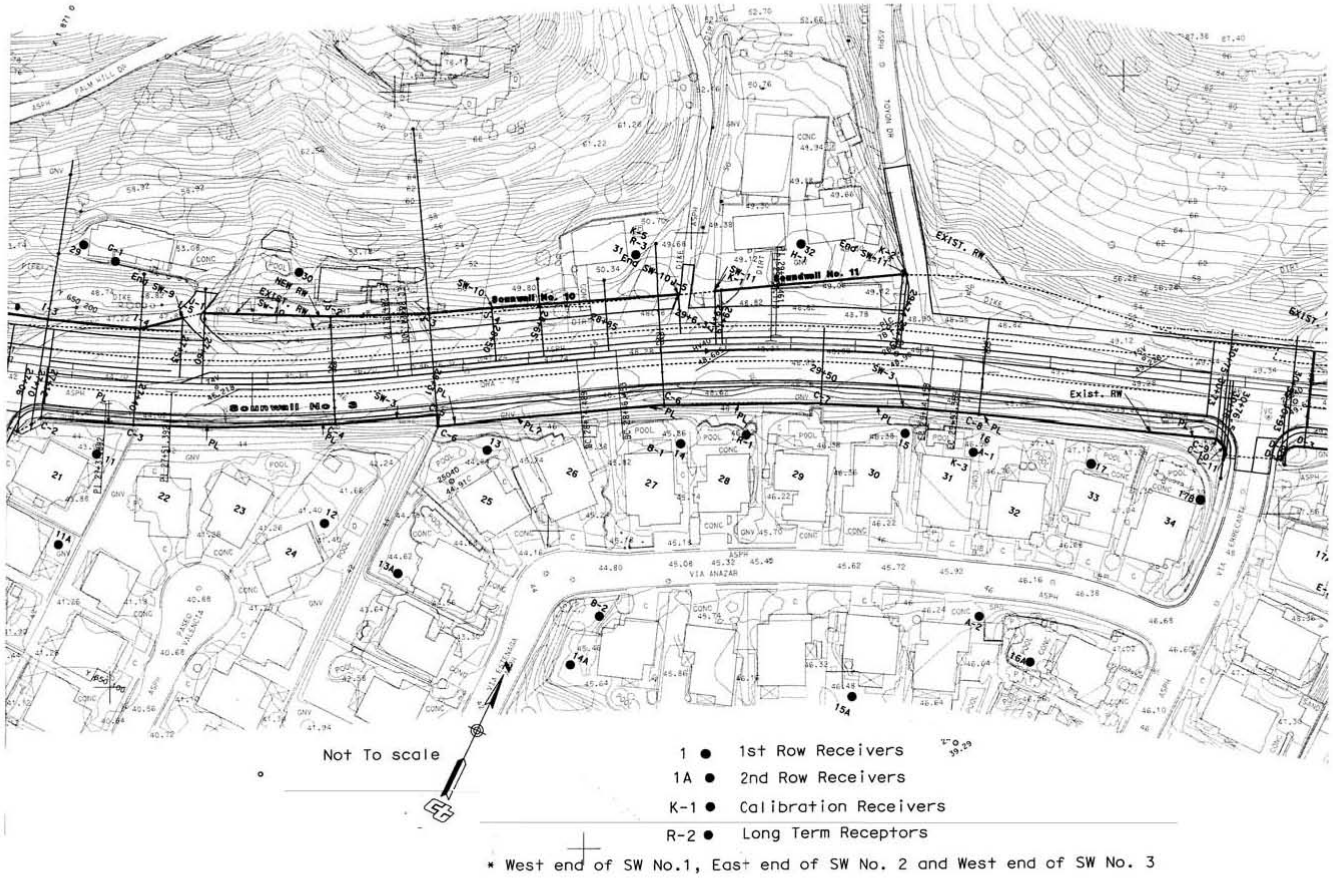
Reasonable cost allowance was evaluated for each sound wall. These sound walls would provide noise abatement for the residential receptors with frequent outdoor human activities and are assessed based on the number of benefited residences for the residential area. Where the reasonable cost allowances are greater than the estimated construction costs of a wall, the wall is considered reasonable and therefore recommended. Sound Walls 2 and 3 are both feasible. Sound Wall 2 is reasonable. The Designer of Record will make the final decision during final design. However, this environmental document assumed the worst-case scenario and is considering the construction of Sound Walls 2 and 3.

The Department understands and supports the City's desire to maintain the scenic character of the SR-74 corridor and has considered analyzing the option of glass walls to reduce visual and cultural impacts to the community. In addition, residents on the north side of SR-74 have asked the City to look into the potential for reflective noise caused by the glass walls. Hence, this environmental document evaluates two sound wall options: glass walls and Sound Fighter® walls (qualitative analysis). The masonry wall option was eliminated due to substantial environmental impacts (Please refer to Section 1.6 – Alternatives Considered and Withdrawn).



Noise Measurement Locations from Calle Entradero to Via Cordova — Figure 37

Noise Measurement Locations from Via Cordova to Via Cristal — Figure 38



Noise Measurement Locations from Via Cristal to Via Errecarte — Figure 39

The potential that some traffic noise reflection could be experienced by receptors on the opposite side of the sound walls exists whenever sound walls are provided along highways. The model used to predict future traffic noise for the proposed project was Sound 32/2000 Standard Traffic Noise Model which does not have the capability to predict reflective noise. Material used in the Sound Fighter® walls is claimed by the manufacturer to substantially reduce sound reflection and was recently approved to be used on State highways and freeways. The type of material used to build the sound wall would be made upon completion of project design and the public involvement processes.

Construction Noise Impacts

During construction, noise would be intermittent with varying intensity. The degree of construction noise may also vary depending on the location and type of construction activities. Noise levels for typical construction activity expected in the project area could range from 70 dB to 90 dB at a distance of 50 feet. Because construction activities would be conducted in accordance with the Department's standard specifications and would be short term, intermittent, and in most cases dominated by traffic noise, no substantial noise impacts from construction are anticipated.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are proposed for the No Build Alternative.

Build Alternative

- Based on the studies completed to date, the Department proposes to incorporate noise abatement in the form of a sound wall at two locations. The recommended height of the soundwalls is 14 feet, though precise soundwall height and design will be determined during the Plans, Specifications, and Estimates (PS&E) phase of the project. The soundwalls would be located at the following locations:
  - Sound wall #2, from Via Cordova to Via Cristal

- Sound wall #3, from Via Cristal to Via Errecarte

Calculations based on preliminary design data indicate that the barrier would reduce noise by a minimum of 5 dBA.

Based on a 2007 cost estimate, the cost of the sound walls, if built at 14 ft., would be:

- Sound wall #2: $529,626
- Sound wall #3: $870,753

However, if conditions have substantially changed during final design, 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.

- During the construction period, the Contractor shall be required to comply with local sound control and noise level rules, as outlined in the Department's standard specification Section 7-1.01I. Also, internal combustion engines shall be equipped with a muffler to reduce noise.

2.3 Biological Environment

This section was prepared based upon the Natural Environment Study (NES), completed in June 2007. The NES was prepared with input from resource agencies including the U.S. Army Corps of Engineers (ACOE), the California Department of Fish and Game (CDFG), the National Marine Fisheries Service (NMFS), and the United States Fish and Wildlife Service (USFWS). Additional information was obtained from the: *Joint Programmatic EIR/EIS and Draft Implementation Agreement (IA) for the Southern Subregion Natural Community Conservation Plan/Master Streambed Alteration Agreement/Habitat Conservation Plan (Southern Subregion NCCP/MSAA/HCP)* (County of Orange, July 2006), the *Draft Environmental Impact Statement, San Juan Creek and Western San Mateo Creek Watershed Special Area Management Plan (SAMP)* (US Army Corps of Engineers, November 2005), *Addendum No. 1 (PA06-0023) for Final EIR No. 589 The Ranch Plan Planning Area 1* (BonTerra Consulting, May 2006), and the *Final Environmental Impact No. 589 General Plan Amendment/Zone Change (PA 01-114) for The Ranch Plan* [Certified Draft EIR Orders and Approvals, Technical Appendices, Comments and Responses (SCH No. 2003021141)] (County of Orange, November 2004).

The widening of SR-74, within the County of Orange (County) boundary, was evaluated as part of the Rancho Mission Viejo (RMV) Ranch Plan EIR No. 589, for which the County of Orange was the lead agency. In June 2006, the PDT decided that the Department should evaluate the widening of SR-74 only within the City of San Juan Capistrano limits (City). The City portion of the project is referred to as the "proposed project," the "project area," or the "Biological Study Area" (BSA). The BSA contains the disturbance limits for the proposed project, including such activities as cut, fill, and grading. For purposes of this environmental document, only the areas within the Project Limits from Calle Entradero to the City of San Juan Capistrano/County of Orange limits are analyzed in this IS.

From January 2001 to May 2006, the Department coordinated with the resource agencies. A history of coordination, events, and survey findings is contained within Appendix F to the NES. The County will prepare resource agency permits for the proposed project. The Department will review these resource agency permits for impacts and conditions associated with SR-74 itself. The County is responsible for mitigation and monitoring commitments for any impacts to biological resources associated with the proposed project. At the time the County prepares the project plans, the County will determine appropriate project mitigation, in coordination with the resource agencies. No mitigation will be planted within the state right-of-way, to account for impacts to biological resources.

The Biological Study Area (BSA) is located in the City of San Juan Capistrano, United States Geological Survey (USGS) San Juan Capistrano quadrangle, Sections 6 & 32, Township 7-8 south, and Range 7 west. Due to the BSA's inclusion in the regional planning efforts listed above, it is considered a valuable resource. The BSA is located just west of the approximately 22,815-acre Ranch Plan project located in unincorporated Orange County. Ladera Ranch is located to the north of the BSA; the Donna O'Neill Land Conservancy is located to the southeast of the BSA; and Caspers Wilderness Park is located to the northeast of the BSA. The topography of the BSA generally slopes down from the north to the south and ranges in elevation from 656 to 1,640 ft. (200 to 500 m.).

The Ranch Plan's Planning Area (PA) 1 is located immediately east of the BSA and contains grassland, coastal sage scrub, riparian, chaparral, and open water habitat (San Juan Creek) (BonTerra Consulting, May 2006). Grassland is the habitat of greatest occurrence in PA 1.

Development of PA 1 would impact sensitive species, including three California gnatcatcher locations, one Cooper's hawk historic nest location, one red-tailed hawk historic nest location, one barn owl's historic nest location, one grasshopper sparrow location, one rufous-crowned sparrow location, three yellow-breasted chat locations, one red-diamond rattlesnake location, and two western spadefoot toad locations (BonTerra Consulting, May 2006).

The BSA contains low-density residential areas, landscaped areas, and disturbed roadway shoulders. Vegetation on the south side of the road primarily consists of elm (*Ulmus parvifolia*), pepper tree (*Schinus molle*), sycamore *(Platanus* sp.) and Eucalyptus (*Eucalyptus* sp). The north side of the BSA contains bougainvillea *(Bougainvillea* sp.), pepper trees, Eucalyptus, and areas of non-native grasses and invasive species. An approximate 30′ by 30′ area of ice plant is found on the north side of SR-74 within the BSA. Small areas of riparian, atypical wetland, and oak trees occur within the BSA. A concrete meandering path occurs on the southern side of SR-74; the north side of the BSA contains a dirt equestrian path.

All existing drainages would be modified and extended to intercept at the proposed edge of pavement. An additional ten drainages would be added in the BSA on the north side of SR-74. Three existing drainages are jurisdictional atypical wetlands based on ACOE and CDFG guidelines, with these drainage areas filled due to north side roadway widening. These drainages eventually discharge into the main channel of San Juan Creek, located less than one mile east of the BSA.

The City of San Juan Capistrano, as a SAMP Participant, would be required to adhere to SAMP Long-Term Individual Permits/Letters of Permission (LOP) procedures and applicable conditions of the NCCP/MSAA/HCP. A Streambed Alteration Agreement/Master Streambed Alteration Agreement from CDFG and 401 Water Quality Certification from the San Diego Regional Water Quality Control Board are required for the proposed project.

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Wildlife currently travels along San Juan Creek searching for food, water, shelter, and mates. Within the BSA, tributary culverts to San Juan Creek are not used as wildlife corridors due to topography and hydrology constraints.

Regulatory Setting

Laws that are applicable for the protection of natural communities include those listed under Section 2.3.2, Wetlands and Other Waters, and Section 2.3.3, Plant Species. The BSA is contained within the NCCP/MSAA/HCP area.

As previously addressed, the County of Orange Board of Supervisors certified the Final EIR for the NCCP/MSAA/HCP and approved the HCP in October 2006. The USFWS distributed the Final EIS for public review on November 13, 2006. The IA was signed by the Participating Landowners (the County, RMV, and Santa Margarita Water District) in December 2006. The USFWS signed the IA, approved the HCP, and issued Incidental Take Permits (ITP) to each of the participating landowners on January 10, 2007. The Southern HCP assumes the Ranch Plan development. Coordination with CDFG on the NCCP/MSAA is ongoing.

Affected Environment

The BSA is highly disturbed and contains primarily landscaped areas of the City of San Juan Capistrano (south side) and low-density residential areas (north side). As of January 2007, silt fence is present along areas to the north of SR-74. These improvements to private property appear to have changed the topography and hydrological conditions of the BSA.

The oaks at "The Oaks" property (28650 Ortega Highway) are not considered an oak woodland given that there are less than a dozen trees that may be impacted and the trees occur in a linear swath, with some found in containers. These oaks do not occur within CDFG jurisdiction; however, the City of San Juan Capistrano Tree Removal Guidelines conditions are applicable for the removal of the trees. A total of 70 trees will be impacted along the north side of the road and 41 trees along the south side of SR-74.

Impacts

<u>No Build Alternative</u>

The No Build Alternative does not contain construction components or ground disturbance activities. The No Build Alternative is not expected to result in a change in the natural community and thus, would not affect sensitive habitat or wildlife corridors.

Build Alternative

Direct removal of riparian, atypical wetland, and impacts within the dripline of 8 oak trees (*Quercus agrifolia*), will occur from the proposed project. These habitat areas have limited function and value and occur in very small areas next to the roadway shoulder. Direct effects to natural communities of concern involve the direct removal or fill of riparian/atypical wetland (0.134 acre, of this 0.052 acre is riparian vegetation) in Drainage Systems (DS) 7, 8, and 10. As culverts are improved and/or vegetation removed for roadway widening, these impacts will occur. Direct effects may also occur as ground disturbance activities occur within the drip line of the oak trees at "The Oaks" property.

Culverts that are present in the BSA allow passage of mobile species and may provide marginal habitat. Habitat within the BSA would not be further fragmented by the proposed project since SR-74 is an existing roadway. According to the Department's Maintenance Road Kill Monitoring Reports for SR-74, from 1999–2006, road kill occurred primarily east of the BSA, starting at PM 5.5 eastward, and was comprised of coyote, dog, and cat. There are few records of road kill in the BSA based on these Maintenance Road kill Monitoring Reports during this recorded time period.

Indirect effects to natural communities would extend throughout the duration of construction. Indirect effects may include increased susceptibility of adjacent native habitats to invasion by non-native species, increased erosion, siltation, and runoff.

The proposed project may result in long-term, beneficial effects including the removal of exotic species within the BSA.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative is not expected to affect natural communities, no avoidance, minimization, and/or mitigation measures are proposed.

Build Alternative

- The County of Orange shall be responsible for mitigation of the project impacts. At the time of preparation of project plans, the County will determine appropriate project mitigation, in coordination with the resource agencies. The County will serve as the Applicant for resource agency permits.

- The project shall comply with applicable conditions of the SAMP and the NCCP/MSAA/HCP.

In order to minimize and avoid effects to natural communities, the Build Alternative includes the following measures.

- The permittee shall perform initial vegetation clearing in Waters of the U.S. between September 15 and March 15. Work in waters may occur between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-ft. radius.

- Protective fencing shall be placed around the dripline of oaks to prevent compaction of the root zone (ESA). In addition, oaks that occur in container plants will be relocated prior to the start of construction.

- Any impacts to oak trees shall be mitigated within proximity to the BSA, as coordinated with the City of San Juan Capistrano's Tree Removal Guidelines.

- A qualified Biologist shall monitor all appropriate ground disturbance activities to ensure that all conservation measures are being implemented.

- Prior to the initiation of the project, the boundaries of the project's impact area shall be delineated by the placement of temporary construction fencing, staking, and/or signage. Any additional acreage impacted outside the approved project footprint shall be mitigated at a 5:1 ratio.

- All Best Management Practices (BMPs) would be in place during construction according to the SWPPP. BMPs shall be employed to minimize erosion from the construction of project facilities and deposition of soil and/or sediment into drainage areas of the BSA.

- No fueling, lubrication, storage, or maintenance of construction equipment within CDFG or ACOE jurisdictional areas is permitted. Spoil sites shall not be located within the CDFG or ACOE jurisdictional areas, or in areas where it could be washed into a drainage channel that outlets at San Juan Creek.

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the CWA (CWA), 33 U.S.C 1344) is the primary law regulating wetlands and waters. The CWA regulates the discharge of dredged or fill material into Waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the ACOE with EPA oversight.

At the state level, wetlands and waters are regulated primarily by CDFG and the RWQCB. Sections 1600–1603 of the CDFG Code require any agency that proposes a project that will

substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement obtained by the CDFG. ACOE, in non-tidal waters, is measured to the Ordinary High Water Mark (OHWM). The OHWM is considered a line on the shore established by water fluctuations and indicated by physical characteristics including a clear, natural line on bank areas, changes in the soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the CWA.

The SAMP process is applicable to the BSA. According to the SAMP Draft EIS, the purpose of the SAMP is to provide for reasonable economic development and the protection long-term management of sensitive aquatic resources. As applicable to the proposed project, the SAMP proposes the Long-Term Individual Permits/Letters of Permission (LOP) procedures for long-term activities proposed for properties within the SAMP study area, which includes the project site.

Affected Environment

The BSA contains culverts/ditch areas that eventually discharge into San Juan Creek, located south and east of the Project Limits. All existing drainages would be modified and extended to intercept at the proposed edge of pavement. An additional ten drainages would be added on the north side of the highway throughout the Project Limits. Three of the existing drainage systems (DS) 7, 8, and 10, are considered jurisdictional “Atypical wetlands.” These “Atypical wetlands”

are man-induced wetlands (as defined in the 1987 Corps Wetland Delineation Manual, Section F, Atypical Situation), and likely resulted from roadway construction and urban runoff. DS 7 and 10 have soft-bottoms and contain fill soils typical of roadway shoulders. DS 8 is a fully lined concrete channel. DS 7 has a length of 227 ft. and width of 10 ft.; DS 8 has a length of 144 ft. and width of 10 ft.; and DS 10 has an approximate length of 880 ft. and average width of 2.5 ft. With the completion of the project, these drainage systems will be improved and will result in an increase in capacity. It is likely that urban runoff and homeowner yard improvements have resulted in changes in topography and hydrology of the BSA (primarily on the north side of SR-74 in the BSA). These factors have likely contributed to the "atypical" classification. Only DS 8 contains a clearly defined bed, channel, and bank area.

The drainage areas contain cattails (*Typha domingensis*), willow (*Salix* sp.), pampas grass (*Cortaderia selloana*), sedge *(Carex* sp.), and doc (*Rumex crispus*) (DS 7) with DS 8 containing bougainvillea and non-native grasses. DS 10 contains primarily non-native grasses and species typical of disturbed roadway shoulders. The V-ditches that cross under the SR-74 provide marginal habitat for wildlife; however, they are not designated wildlife corridors.

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component or ground disturbing activities. The No Build Alternative is not expected to result in a change in the surface water flow, and thus would not affect wetlands and other waters.

Build Alternative

Table 2.3.2-1 identifies the direct effects on waters and oaks associated with the Build Alternative. Build effects on wetlands and other waters involve the loss of vegetation from filling of DS 7, 8, and 10 for SR-74 north-side widening, and direct removal of habitat due to site preparation such as vegetation clearing, grubbing, and grading. The removal of 0.134 acre of atypical wetland (0.052 acre is riparian vegetation found in DS 7) will occur. Since most of the widening will occur on the north side of SR-74, all existing drainages would be modified and

extended to intercept at the proposed edge of pavement. An additional ten drainages would be added on the north side of SR-74 throughout the BSA. In addition, bioswales are proposed in the BSA; however, detailed information regarding the locations is not known at this time.

Table 2.3.2-1
Natural Communities/Habitat Impacted by the Proposed Project

Habitat	Impact Area (ac)	Notes
Riparian	0.052 acre	DS 7
Atypical Wetland	0.134 acre (0.052 acre is riparian)	DS 7,8, and 10
Oaks (*Q. agrifolia*)	Work within dripline of 8 trees	Property fence in southeastern portion of BSA

Indirect effects to wetlands and other waters may include: 1) changes in hydrology from increased sediment entering drainage areas after vegetation clearing and/or 2) invasive, non-native plants transported into areas along the roadway with the movement of soil and/or placement of fill material that is present on construction equipment brought on-site or taken off-site and is inadvertently included in seed mixes. These indirect effects would only last during construction. Implementation of BMPs in the SWPPP would minimize these effects during construction.

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in atypical wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. As a result, impacts to Wetlands and Other Waters are not substantial, with the implementation of BMPs and anticipated conditions of the SAMP. The drainage areas are highly disturbed, primarily concrete-lined, and are located in the roadway shoulder. The functions and values of these facilities will be enhanced with improvements to structure and capacity as a result of the project.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative is not expected to affect wetlands and other waters, no avoidance, minimization, and/or mitigation measures are proposed.

Build Alternative

- The County of Orange shall be responsible for mitigation of the project impacts. At the time of preparation of project plans, the County will determine appropriate project mitigation, in coordination with the resource agencies. The County will serve as the Applicant for resource agency permits.

- It is anticipated that the County shall implement applicable conditions of the SAMP and NCCP/MSAA/HCP.

The following elements have been agreed to but may not be limited to the following, per conditions of the SAMP and Caltrans Construction Requirements:

- The project would result in 0.134 acre of permanent impacts to Waters of the United States (WoUS) requiring a Letter of Permission (LOP) from the ACOE to authorize the discharge of dredged and/or fill materials into WoUS, pursuant to Section 404 of the Clean Water Act. A Compensatory Mitigation Plan addressing unavoidable impacts to WoUS and the program goal of no net loss of wetlands shall be prepared and approved by the ACOE prior to the issuance of the first grading permit. Mitigation ratios shall be determined by the ACOE. Conditions of the LOP are expected to include the following:

    a. When feasible, erosion and siltation controls, such as siltation or turbidity curtains, sedimentation basins, and/or hay bales or other means designed to minimize exacerbating turbidity in the watercourse above background levels existing at the time of project implementation shall be used and maintained during project implementation. All exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be stabilized at the earliest practicable date to preclude additional damage to the project area through erosion or siltation and no later than November of the year the work is conducted to avoid erosion from storm events.

    b. Heavy equipment working in or crossing wetlands shall be placed on temporary construction mats (timber, steel, geotextile, rubber, etc.) or other measures must

be taken to minimize soil disturbance such as using low pressure equipment. Temporary construction mats shall be removed promptly after construction.

c. No discharge of dredged or fill materials (even if temporary) shall consist of unsuitable materials (e.g., trash, debris) and material discharged shall be free from pollutants in toxic amounts, per Section 307 of the CWA.

d. To the maximum extent practicable, the activity shall be designed to maintain pre-project downstream flow conditions.

e. Any temporary fills must be removed in their entirety and the affected areas returned to their pre-existing conditions, including any native riparian and/or wetland vegetation.

f. Measures shall be adopted to prevent potential pollutants from entering the watercourse. Construction materials and debris (including fuels, oil, and other liquid substances) will not be stored in the project areas in a manner so as to prevent any runoff from entering jurisdictional areas.

g. Staging, storage, fueling, and maintenance of equipment must be located outside the waters in areas where potential spilled materials will not be able to enter any waterway or other body of water.

h. Prior to initiation of the project, the boundaries of the project's impact area shall be delineated by the placement of temporary construction fencing, staking, and/or signage. Any additional acreage impacted outside the approved project footprint shall be mitigated at a 5:1 ratio. In the event that additional mitigation is required, the type of mitigation shall be determined by the ACOE and may include wetland enhancement, restoration, creation, or preservation.

i. With regard to federally listed avian species, avoidance of breeding season requirements shall be those specified in the programmatic Section 7 consultation for the LOP procedures. For all other species, initial vegetation clearing in WoUS must occur between September 15 and March 15. Work in waters may occur

between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-ft. radius.

j. The ACOE shall be allowed to inspect the site at any time during and immediately after project implementation provided 24-hour advanced notice is given to the permittee. In addition, compliance inspections of all mitigation sites must be allowed at any time.

k. A copy of the LOP conditions shall be included in all bid packages for the project; shall be available at the work site at all times during periods of work; and must be presented upon request by any ACOE or other agency personnel with a reasonable reason for making such a request.

l. Within 60 days of completion of impacts to waters, as-built drawings with an overlay of waters that were impacted and avoided shall be submitted to the ACOE. Post-project photographs shall also be provided which documents compliance with permit conditions.

m. An individual Section 401 Water Quality Certification shall be obtained [33 CFR 325.2(b)(1)].

2.3.3 Plant Species

Regulatory Setting

The USFWS and CDFG share regulatory responsibility for the protection of special-status plant species. “Special status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to those formally listed or proposed for listing as Endangered or Threatened under the FESA and/or CESA. The regulatory requirements for FESA can be found at 16 USC 1531, et. seq. and 50 CFR 402. The regulatory requirements for CESA can be found in the CDFG Code, Section 2050 et. seq. The Department’s projects are also subject to the Native Plant Protection Act, found in the CDFG Code, §§1900-1913, and CEQA Public Resources Code §§2100-211177.

This section of the document addresses the potential for special-status plant species, including CDFG Fully Protected Species and Species of Special Concern, USFWS Candidate Species, and non-listed California Native Plant Society (CNPS) Rare and Endangered plants. (See Section 2.3.5 for more information regarding threatened and endangered species.)

Affected Environment

Though not considered a natural community of special concern, oak trees are protected by the CDFG when they occur in CDFG jurisdictional areas. A linear swath of oak trees is found along the property fence at the southeastern portion of the BSA in upland areas. The understory of these oak trees is composed of non-native grasses along the road shoulder.

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component. The No Build Alternative is not expected to result in a change in natural communities, and thus would not affect plant species.

Build Alternative

Eight oak trees (*Quercus agrifolia*) may be impacted by ground disturbance activities within the dripline of the trees, associated with roadway widening. Some of these oak trees occur in containers and may be relocated prior to construction.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative is not expected to affect plant species, no avoidance, minimization, and/or mitigation measures are proposed.

Build Alternative

- Protective fencing shall be placed around the dripline of oaks to prevent compaction of the root zone (ESA). In addition, oaks that occur in containers will be relocated prior to the start of construction.

- Any impacts to oak trees will be mitigated within proximity to the BSA, as coordinated with the City of San Juan Capistrano's Tree Removal Guidelines.

- A qualified Biologist shall be designated responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with the proposed project in accordance with the adopted mitigation measures and applicable laws.

- All BMPs will be in place during construction according to the SWPPP. BMPs shall be employed to minimize erosion from the construction of project facilities and deposition of soil or sediment into drainage channels of the BSA.

- Prior to the initiation of the project, the boundaries of the project's impact area must be delineated by the placement of temporary construction fencing, staking, and/or signage.

- If any sensitive plants are observed within the BSA during pre-construction surveys, the locations of the populations and an estimation of the population size shall be mapped and shown on construction drawings. This information shall be used for appropriate avoidance during construction. If this species is to be avoided during construction, it shall be shown as ESA on the plans. If the population cannot be avoided during construction, this information shall be used for appropriate seed collection and salvage measures.

2.3.4 Animal Species

Regulatory Setting

Many state and federal laws regulate effects to wildlife. The USFWS, the NMFS, and CDFG are responsible for implementing these laws. This section discusses potential effects and permit requirements associated with wildlife not listed or proposed for listing under the FESA or CESA. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5.

All other Special Status animal species are discussed in this section, including CDFG Fully Protected Species and Species of Special Concern.

Federal laws and regulations pertaining to wildlife include the Migratory Bird Treaty Act, and the Fish and Wildlife Coordination Act. State laws and regulations pertaining to wildlife include CEQA, Sections 1600–1603 of the CDFG Code, and Section 4150 and 4152 of the CDFG Code. Raptors and other birds are protected during nesting by State law and/or by the federal Migratory Bird Treaty Act. While loss of trees on site is considered minimal given the extensive stands of woodland, grassland, and coastal sage scrub in the region, destruction of active nests for most avian species is legally prohibited.

Affected Environment

Department Biologists and Environmental Staff visited the project site on June 28, 2006; August 1, 2006; August 30, 2006; September 13, 2006; September 21, 2006; October 5, 2006; and November 30, 2006. Animal and plant species typical of urban areas were present such as the cabbage white butterfly (*Pieris rapae*), swallowtail (*Pailio rutulus rutulus*), house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), black phoebe (*Sayornis nigricans*), western fence lizard (*Sceloporus occidentialis*), and red-winged blackbird (*Agelaius phoeniceus*). In addition, raptors may utilize the BSA; however, the BSA contains marginal habitat. Raptors were not found to be nesting in the BSA. Non-sensitive raptors are identified on Table 2.3.4-1.

Table 2.3.4-1
Non-sensitive Raptors in the Biological Study Area

Common Name	Scientific Name	Status
Red-tailed hawk	*Buteo jamaicensis*	GMBTA*
Red-shouldered hawk	*Buteo lineatus*	GMBTA*
*GMBTA: General Migratory Bird Treaty Act		

The BSA contains primarily disturbed conditions along SR-74 along with landscaped areas of the City of San Juan Capistrano. Raptors have the potential to occur in the BSA including red-shouldered hawk (*Buteo lineatus*) and red-tailed hawk (*Buteo jamaicensis*). Raptors tend to use

and forage over a variety of habitats including grassland, scrub, and woodland. During 2006 surveys by Department Biologists, red-shouldered hawk and red-tailed hawk were seen soaring over the BSA; it is unlikely that either species nest in the BSA due to a lack of suitable habitat.

The BSA does not contain suitable hydrology to be utilized by fish. The BSA contains box culverts/Corrugated Metal Pipes, and/or V-ditch structures that do not contain suitable hydrology to provide Essential Fish Habitat and/or serve as designated wildlife corridors.

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component or ground disturbance activities. The No Build Alternative is not expected to result in a change in the natural communities, and thus would not affect animal species or wildlife movement.

Build Alternative

Direct effects involve the physical loss of habitat, possibly used by wildlife, due to site clearing, grubbing, culvert improvements, and road widening. Construction of the Build Alternative would result in the removal of habitat that may provide nesting and foraging opportunities for a variety of species including riparian/atypical wetland, species dependent on tall trees (oaks), and non-native species. A total of 0.134 acre of riparian/atypical wetland habitat, which may be used by nesting birds/raptors, will be impacted. Eight oak trees (*Q. agrifolia*) will be impacted by work proposed within the dripline of the trees. In addition, 41 tall trees (including 8 oaks) will be removed on the south side of SR-74 and an estimated 70 trees will be removed from the north side. These trees may provide nesting and foraging habitat. With the completion of mitigation by the County, effects to habitat are not considered substantial.

The proposed project does not include the construction of median barriers and is not anticipated to affect long-term wildlife movement. Small mammals, reptiles, and amphibians and other animals of slower mobility that live in the BSA may be temporarily affected as habitat is altered or removed. More mobile wildlife species may be able to vacate the areas and move into adjacent areas of open space. Any displacement of wildlife into adjacent areas of open space is anticipated to occur only during construction. Lighting may be installed during night work that

may temporarily disrupt animal behavior (including foraging and nesting); however, lighting will be shielded away from natural areas. Any displacement of raptors into adjacent areas of open space (primarily at RMV) will be temporary. SR-74 is an existing roadway, with an increase in raptor-vehicle collisions not anticipated once construction is complete.

During construction, there may be indirect effects to riparian-dependent species including minimal changes in increased sediment in tributary drainages to San Juan Creek, water temperature, flow velocity, chemistry, or associated terrestrial/aquatic vegetation that would reduce the habitat quality for riparian-dependent species. Any of these indirect effects will last during construction. Although project work will affect tributaries to San Juan Creek, fish do not use these areas due to lack of suitable hydrology. Implementation of the BMPs in the SWPPP would minimize these affects during construction.

Within the BSA, construction noise may affect nesting birds in the following ways: 1) reduce communication distance; 2) distort sounds; and/or 3) cause an avoidance pattern due to annoyance. With implementation of the project sound walls, noise levels pre- and post-construction will remain similar and may result in a temporary impact to nesting birds during construction. There will be not long term, permanent impacts from noise.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

Since the No Build Alternative is not expected to affect wildlife, no avoidance, minimization, and/or mitigation measures are proposed.

Build Alternative

The following measures would be implemented in addition to those listed in the Sections on Water Quality, Natural Communities, Wetlands and Other Waters, and Plant Communities. The following elements have been agreed to but may not be limited to the following:

- Vegetation removal in upland areas should not occur during the primary nesting season for local birds (February 15 through September 1) and most raptors, as protected by the Migratory Bird Treaty Act and Section 3503.5 of the CDFG Code, respectively. If

vegetation removal must occur during this period, then pre-construction surveys shall be conducted in the appropriate habitats within and up to approximately 100 feet (33 meters) from the project boundary or an area coordinated with the resource agencies, in order to identify nesting birds and/or raptors within or adjacent to the proposed project. In the event of discovery of active nests in the areas to be cleared, protective measures as outlined by the qualified Biologist shall be taken, as coordinated with the resource agencies. Clearing and grubbing limits may be established up to approximately 500 ft. (150 m) in any direction of nests, or buffer distance coordinated with the resource agencies.

- In order to avoid and minimize the effects of lighting on wildlife, construction lighting shall be shielded away from natural areas.
- Biological resources shall be protected during construction. To ensure this protection, a Biological Resources Construction Plan (BRCP) that provides for the protection of the resource and establishes the monitoring requirements will be completed.
- A qualified Biologist shall monitor all appropriate ground disturbance activities to ensure that all conservation measures are being implemented.
- To reduce impacts to these species, all construction-related activities shall be confined to the proposed impact boundaries by installing fencing along the boundary to prevent any construction activities from encroaching into adjacent areas. In addition, construction access points shall be limited in proximity to the potential habitat for these species to the maximum extent feasible.
- All BMPs shall be in place during construction according to the SWPPP.
- ESAs will be flagged prior to the start of ground disturbance activities.
- Construction of two project sound walls will result in post-construction noise levels similar to pre-construction levels, in the BSA.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the FESA (USC. Section 1531, et. seq. and 50 CFR Part 402). This act and subsequent amendments provide for the conservation of Endangered and Threatened species and the ecosystems upon which they depend. Agencies are required to consult with the USFWS and the NMFS to ensure they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take Permit. Section 3 of FESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct."

At the state level, the CESA and CDFG Code emphasize early consultation to avoid potential effects to rare, endangered, and threatened species and to develop appropriate planning to offset projects causing the losses of listed species populations and their essential habitats. The CDFG is the agency responsible for implementing CESA. Section 2081 of the CDFG Code prohibits "take" of any species determined to be an endangered or a threatened species. "Take" is defined in Section 86 of the CDFG Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to an otherwise lawful activity; for these actions, an Incidental Take Permit is issued by the CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, the CDFG may also authorize effects to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

Of the 11 possible federal or state Threatened or Endangered species that may occur in the BSA (USFWS, August 7, 2006), none were present during surveys of the BSA. USFWS protocol surveys were not conducted due to the presence of marginal habitat in the BSA and RMV survey results of threatened and/or endangered species absence in areas abutting the BSA. Due to the urbanized nature of the project area, federally and/or state-listed Threatened or Endangered species were not anticipated in the BSA. As a result, a Biological Assessment was not prepared

for the proposed project. Sensitive species in the biological resources project study area are identified on Table 2.3.5-1.

Table 2.3.5-1
Project Study Area Sensitive Species

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present/ Absent	Rationale
Amphibians					
arroyo toad	*Bufo californicus*	**FE**	Flood terraces, sandy pools	A	The BSA contains landscaped areas within the City of San Juan Capistrano and low-density residences (lack of suitable habitat)
Birds					
southwestern willow flycatcher	*Empidonax traillii extimus*	**FE**	Low-elevation riparian habitats	A	Lack of suitable habitat
bald eagle	*Haliaeetus leucocphalus*	**FT**	Lakes, reservoirs	A	Lack of suitable habitat
coastal California gnatcatcher	*Polioptila californica californica*	**FT**	Coastal sage scrub	A	Lack of suitable habitat
least Bell's vireo	*Vireo bellii pusillus*	**FE**	Riparian	A	Lack of suitable habitat
Crustaceans					
San Diego fairy shrimp	*Branchinecta sandiegonensis*	**FE**	Vernal Pools	A	Lack of suitable habitat
Riverside fairy shrimp	*Streptocephalus woottoni*	**FE**	Vernal Pools	A	Lack of suitable habitat
Fish					
Southern steelhead	*Oncorhynchus mykiss*	**FE**	Freshwater streams, coastal lagoons, drainages	A	Lack of suitable habitat
Plants					
thread-leaved brodiaea	*Brodiaea filifolia*	**FT, SE**	Chaparral, woodlands, coastal scrub	A	Lack of suitable habitat
Laguna Beach live-forever	*Dudleya stolonifera*	**FT, ST**	Chaparral, woodlands, coastal scrub	A	Lack of suitable habitat
big-leaved crownbeard	*Verbesina dissita*	**FT, ST**	Chaparral, woodlands, coastal scrub	A	Lack of suitable habitat

Source: USFWS Species List for the State Route 74 Widening Project in the City of San Juan Capistrano, Orange County, California (August 7, 2006)
Absent [A] means no further work needed. Present [P] means general habitat present and species may be present.
Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); California Species of Special Concern (SSC); California Native Plant Society (CNPS).

Impacts

No Build Alternative

The No Build Alternative does not contain a construction component or ground disturbance activities. The No Build Alternative is not expected to result in a change in natural communities, and thus would not affect threatened and/or endangered species.

Build Alternative

No long-term or permanent effects to Threatened or Endangered species are anticipated by the proposed project. There is no critical habitat in the BSA.

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative does not contain a construction component. It is not anticipated to affect threatened and/or endangered species and thus, no avoidance, minimization, and/or mitigation measures are proposed.

Build Alternative

There are no threatened or endangered species within the BSA. The project is not anticipated to affect threatened and/or endangered species and thus, no avoidance, minimization, and/or mitigation measures are proposed.

2.3.6 Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material

capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health."

Affected Environment

The BSA contains disturbed conditions of roadway shoulders. Some of these areas contain species that are not native to the area including: purple fountain grass (*Pennisetum setaceum*), Mexican feather grass (*Stipa tenuissima*), ice plant (*Carpobrotus edulis*), wild oat (*Avena* sp.), castor bean (*Ricinus communis*), bougainvillea (*Bougainvillea* sp.), rip gut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), and telegraph weed (*Heterotheca grandiflora*). In addition, black mustard (*Brassica* sp.), thistle (*Carduus* sp.), cheeseweed (*Malva parvifolia*), pampas grass (*Cortaderia selloana*), and Eucalyptus (*Eucalyptus* sp.) are found in the BSA. Ice plant and pampas grass are found on the California Exotic Plant Pest Council, Pest Plants of Greatest Ecological Concern, List A-1: Most Invasive Wildland Pest Plants. The area of ice plant is approximately 30 ft. by 30 ft.; is located on the north side of SR-74, next to the roadway; and will be impacted from roadway widening.

Impacts

No Build

The No Build Alternative does not involve construction or ground-disturbance activities. It would not increase the risk of introduction or spread of invasive species.

Build Alternative

Invasive species, including ice plant and pampas grass, would be removed by the proposed project. Invasive species have the potential to be imported to the project culverts by contaminated construction equipment or imported materials such as soils. The dispersal of invasive species propagules in the BSA may be furthered by roadway vehicles, with inadvertent mixing of invasive species in seed mixes applied adjacent to the highway and the spread of invasive species during weed-control programs such as mowing. The increased risk of introduction or spread of invasive species would occur only during construction. The risks would

be avoided or minimized with the application of the measures discussed below. In addition, areas of plant species that are non-native to the area will be removed by the proposed project and not re-planted in the BSA once construction is complete.

Avoidance, Minimization and/or Mitigation Measures

No Build

The No Build Alternative does not contain a construction component or ground disturbance activities. The No Build Alternative is not expected to affect natural communities so no avoidance, minimization, or mitigation measures are proposed.

Build Alternative

The Build Alternative includes the following measures to avoid or minimize the spread of invasive species:

- Prior to the initiation of the project, the boundaries of the project's impact area must be delineated by the placement of temporary construction fencing, staking, and/or signage.
- A qualified Biologist shall be designated responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with the proposed project in accordance with the adopted mitigation measures and applicable laws.
- All BMPs will be in place during construction according to the SWPPP.

In order to comply with Executive Order 13112 on *Invasive Species*, no invasive species will be planted within the State right-of-way or in areas in proximity to drainage areas where the species may enter a drainage

.2.4 Cumulative Impacts

2.4.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment

looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Section 15130 of the CEQA Guidelines requires that cumulative impacts be discussed when:

> *…the project's incremental effect is cumulatively considerable, as defined in Section 15065(a)(3)… the term cumulatively considerable means "…that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects…"*

Section 15130(b) of the CEQA Guidelines notes that the elements necessary to provide an adequate discussion of significant cumulative impacts encompass either:

a) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

b) 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. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency."

2.4.3 Affected Environment

This section examines the potential cumulative impacts of the proposed project and the other projects planned, programmed, or in construction within the project study area. In keeping with the requirements of CEQA Guidelines Section 15130(b), the analysis considers projects that have been approved or projects that are in the planning stages, as well as anticipated growth based on regional projections.

When determining which projects would contribute to cumulative impacts, the Department considered known projects within the City of San Juan Capistrano and adjacent unincorporated Orange County. This would encompass the projects within a broad enough range to ensure the cumulative impact evaluation is adequate. For the consideration of impacts associated with projections, the Orange County Projections-2006 (OCP-2006) (CDR, 2006). The local General Plans are consistent with the OCP-2006 projections. In addition, there are two regional planning documents that influence the potential for cumulative impacts: the NCCP/MSAA/HCP and the SAMP. These regional planning programs also factored in growth and cumulative impacts to sensitive resources in the area. These planning documents were done at a watershed level; therefore, they included area beyond the City of San Juan Capistrano and adjacent unincorporated Orange County.

Not all projects would contribute to cumulative impacts for each topical area. For example, not all projects would have impacts on biological resources. Not all impacts associated with each cumulative project would contribute to a cumulative impact. Some of the impacts are very site-specific and would not compound the impacts associated with the proposed project. In other cases, short-term impacts would not contribute to cumulative impacts because the construction of the cumulative project and the road widening would not occur in the same time period or be proximate to each other.

The potential for the project to contribute to cumulative affects varies from one environmental topic to another depending upon the nature of impacts related to the topic. For example, cumulative aesthetic considerations encompass only the surrounding areas with direct views of the project site, while potential impacts to biological resources is generally looked at on a

broader scale. Given the recent completion of subregional plans (NCCP/MSAA/HCP and the SAMP) for biological issues, the data from these plans was also considered.

Regional Plans

Orange County Projections-2004

One component of the cumulative analysis is the growth projected in the OCP-2004. The Center for Demographic Research (CDR) at California State University, Fullerton (CSUF) developed the OCP-2004 for incorporation into the SCAG's growth forecast for the 2004 RTP and the SCAQMD Air Quality Management Plan (AQMP) (SCAG 2004; SCAQMD 2003). These projections generally reflect the growth anticipated by the local general plans for the various Orange County jurisdictions. These projections are used as part of the cumulative analysis because they are the basis for the evaluation of long-term growth and are incorporated into the traffic modeling effort which, in turn, is used for the noise and air quality analyses.

Natural Community Conservation Plan/Master Streambed Alteration Agreement/Habitat Conservation Plan

The NCCP/MSAA/HCP and its associated EIR/EIS have been prepared by the County of Orange in cooperation with the CDFG and the USFWS in accordance with the provisions of the NCCP Act, CESA, FESA, and Section 1600 et seq. of the California Fish and Game Code. The Southern Subregion NCCP/MSAA/HCP provides for the conservation of designated State- and federally listed and unlisted species and their associated habitats that are currently found within the 132,000-acre NCCP/MSAA/HCP study area (Southern Subregion), which includes SR-74. The NCCP/MSAA/HCP is a voluntary, collaborative planning program involving landowners, local governments, State and federal agencies, environmental organizations, and interested members of the public in the formulation and approval of the NCCP. The purpose of the NCCP Program is to provide long-term, large-scale protection of natural vegetation communities and wildlife diversity while allowing compatible land uses and appropriate development and growth. The NCCP process was initiated to provide an alternative to "single species" conservation efforts. The shift in focus from single species, project-by-project conservation efforts to large-scale conservation planning at the natural community level was intended to facilitate regional

and subregional protection of a suite of species that inhabit a designated natural community or communities.

On October 24, 2006, the County of Orange Board of Supervisors certified the EIR for the NCCP/MSAA/HCP project and approved the NCCP. The Implementation Agreement (IA) was signed by the key stakeholders in December 2006.

Special Area Management Plan (SAMP)

A SAMP is a voluntary watershed-level planning and permitting process that involves local landowners and public agencies who seek permit coverage under Section 404 of the federal CWA for future actions which affect jurisdictional Waters of the United States (U.S.). The purpose of a SAMP is to provide for reasonable economic development, protection, and long-term management of sensitive aquatic resources (biological and hydrological). The proposed San Juan Creek and Western San Mateo Creek Watersheds SAMP would provide a framework for permit coverage for the San Juan Creek Watershed (approximately 113,000 acres) and the western portion of the San Mateo Creek Watershed (approximately 15,104 acres). The SAMP study area includes the 22,815-acre Ranch Plan area, which is identified as a cumulative project discussed below.

The ACOE has prepared an EIS (November 2005) for the San Juan Creek and Western San Mateo Creek Watersheds SAMP. The SAMP was prepared as part of two other major planning and regulatory components: (1) The Ranch Plan FEIR 589 and (2) the NCCP/MSAA/HCP and its associated EIR/EIS.

Probable Future Projects

The proposed project traverses through the City of San Juan Capistrano. The identification of cumulative impacts was based upon a search of projects within the City of San Juan Capistrano, as well as areas in the adjacent areas of unincorporated Orange County. This geographic area is considered appropriate because it would capture the key projects that have the potential of contributing similar impacts on resources within the SR-74 ecosystem. A listing of past, present, and reasonably foreseeable future development projects is provided in Table 2.4-1. Table 2.4-2 identifies roadway projects in the study area.

Table 2.4-1
Cumulative Development Projects

Project Title	Project Description	Lead Agency	Project Status
Capistrano Unified School District (CUSD) Offices	Construction of government offices (125,000 gross square feet) at the southerly terminus of Valle Road from San Juan Creek Road.	CUSD	Complete
Pacifica San Juan-(SunCal)	Surrounding McCracken Hill and extending south to Camino Las Ramblas. Residential. 411 single-family and multi-family.	San Juan Capistrano	Under Construction
San Juan Meadows	La Novia Avenue. Residential. 196 single-family detached. 79 single-family attached. 165 multi-family units.	San Juan Capistrano	Approved; Not constructed
Serra Plaza	Del Obispo Street at Paseo Adelanto. Offices. 45,500 gross square feet.	San Juan Capistrano	Complete
Whispering Hills Estates Planned Community	Single-family dwelling units on the eastern edge of the city by La Pata Avenue.	San Juan Capistrano	Under Construction
San Juan Hills High School	West of La Pata Road (Antonio Parkway) and north of San Juan Creek Road. Public high school. 2,000 students.	CUSD	Under construction
Villa Montana Apartment Homes	10 acres of the Whispering Hills Estates site. 163-unit apartment development.	San Juan Capistrano	Under review
Junipero Serra Catholic High School	Junipero Serra Road and Camino Capistrano. Private high school. 2,200 students.	San Juan Capistrano	Complete
Honeyman Ranch: Rancho Madrina	Rancho Viejo Road. Residential estate homes. 119 single-family detached.	San Juan Capistrano	Under construction
Ortega Ranch Offices	Rancho Viejo Road and Ortega Highway. 11-building office complex. 1512,72 gross square feet	San Juan Capistrano	Complete
Mammoth Offices	Rancho Viejo Road at Via Escolar. 2-building office complex. 103,832 gross square feet.	San Juan Capistrano	Under Construction
Ortega Animal Hospital	Ortega Highway between Rancho Viejo Road and La Novia Avenue. Veterinary clinic and animal boarding. 7,767 gross square feet.	San Juan Capistrano	Complete
Reising Law Offices	Ortega Highway between Rancho Viejo Road and La Novia Avenue. Law offices. 5,963 gross square feet.	San Juan Capistrano	Under construction
Rancho Viejo Office Park	Rancho Viejo Road north of Spotted Bull Lane (East Side). 47 percent Medical Office, 53 percent Commercial Office. 67,720 gross square feet.	San Juan Capistrano	Under review
Valle Ranch	South terminus of Valle Road. Offices: 44,400 gross square feet	San Juan Capistrano	Complete
Belladonna Estates	Del Obispo Street. Residential-custom lots (31).	San Juan Capistrano	Approved, Not Constructed
St. Margaret's Episcopal School Master Plan	Ortega Highway and La Novia Avenue. Church: 18,455 gross square feet; Performing arts center: 450 seats Private school. 151 students.	San Juan Capistrano	Under review

Table 2.4-1 (Cont.)
Cumulative Development Projects

Project Title	Project Description	Lead Agency	Project Status
M&M Petroleum	Ortega Highway and I-5 northbound on-ramp. Service station. 9 pumps; Convenience store. 5,940 gross square feet; Auto car wash.	San Juan Capistrano	Under review
Rancho Mission Viejo Plan	Rancho Mission Viejo (RMV) Planning Area (The Ranch Plan project) is a 9,254 hectares ha (22,850-acre) property immediately east of the cities of Mission Viejo and San Juan Capistrano in unincorporated Orange County. 14,000 dwelling units and 5.2 million square feet of retail and business uses on 5,848 gross acres; golf course uses on 25 gross acres, and open space on 16,942 acres Widening SR-74 from 2 lanes to 4 lanes within Planning Area 1	County of Orange	Approved project. Not constructed
Prima Deshecha Landfill	Increase disturbance area from 800 to 1,078 acres for landslide remediation features; redesign desilting system; supplement water supply in the Prima Deshecha Cañada stream channel; modify excavation phasing limits for landslide remediation.	County of Orange	Approved June 2007 by County.

Table 2.4-2
Cumulative Road Projects

Caltrans	Route	Post Mile	Location	Description	Lead Agency	Project Status
0G940K	5	1.63	El Camino Real to Avenue Ramona	Sound walls [approximately 660 ft. (201 m) long] are proposed along southbound I-5 from El Camino Real to Avenue Ramona in San Clemente.	Caltrans	PA/ED approved in 2004; Construction anticipated to begin in 2010
0E5700	5	8.58/9.35	I-5/Camino Capistrano Interchange Improvement Project	Install auxiliary lane and widen the I-5/Camino Capistrano southbound off-ramp. Widen Camino Capistrano in the vicinity of the ramp intersection in San Juan Capistrano.	OCTA	Final design to be determined. PA/ED approved
0E3100	74	9.36/9.88	I-5/Ortega Highway Interchange Project	Interchange improvements, including reconfiguring Del Obispo Street intersection and widening Diamond interchange; relocated Del Obispo Street intersection and single Cloverleaf; and providing double Cloverleaf Interchange	Caltrans	Under review
0G6300	74	5.2/13.1	Middle Ortega Safety Project	Restore eroded and damaged shoulder; replace all existing traffic stripes with inverted thermoplastic traffic strips; and, where conditions allow, create a 1-foot soft barrier on SR-74 from Postmile 5.2 to 13.1. All work would be within the existing State right-of-way.	Caltrans	PA/ED was approved in 2006. Construction is complete
0F5100	5	8.63	San Juan Creek	Repair of streambed scouring that	Caltrans	Construction scheduled

Table 2.4-2 (Cont.)
Cumulative Road Projects

Caltrans	Route	Post Mile	Location	Description	Lead Agency	Project Status
			Scour Project	is exposing and endangering existing I-5 support columns.		for September 2007
043214	74	13.30/16.28	Upper Ortega Highway	Widening of Ortega Highway (SR-74) from Trabuco Road to Orange/Riverside County line. Widen the roadway for safety purposes along portions of the highway in the Cleveland National Forest.	Caltrans	PA/ED was approved in 2005. Currently in construction
N/A	74	2.4	SR-74 and Antonio/La Pata	SR-74/Antonio Pkwy/La Pata Ave. Intersection Improvements.	County of Orange	In construction

2.4.4 Impacts

Project Contributions to Cumulative Impacts

No Build Alternative

The No Build Alternative would not include any construction component and would retain the roadway in its existing configuration. The No Build Alternative would not contribute to cumulative impacts on environmental resources. However, based on the information contained in the traffic studies and as shown in Table 2.1.4−1, the No Build Alternative would not meet the purpose and need to enhance capacity in the long term. By 2030, the mainline would operate at LOS F. LOS F implies that the traffic will be heavily congested and speeds will be less than 35 mph. Traffic demand will exceed capacity and speeds will vary greatly which will result in significant delays. Traffic congestion through the Project Limits is expected to worsen in the 2030 future conditions, increasing from 24,000 vehicles per day in 2005 to 42,000 vehicles per day in 2030.

Build Alternative

As discussed earlier in Section 2.1.2 (Growth), the proposed project would not attract or promote growth in the cumulative study area. The proposed project would not contribute to long-term effects associated with the projected growth in the region, such as traffic congestion, air quality reduction, noise impacts, urbanization, loss of habitat, or historical resources impacts.

It is important to note that a quantification of cumulative impacts is not feasible for some impact topics and would be speculative. As previously noted, in some cases no environmental document has been prepared and impacts are unknown. In other instances, the impacts have not been quantified. Therefore, much of the cumulative evaluation is a qualitative judgment regarding the combined effects of the relationship among the above-listed projects. In some cases, application of the identified project mitigation program may reduce the cumulative impacts as well as the project impact.

The cumulative analysis is limited to the resources that require avoidance, minimization, and mitigation measures to analyze whether the impact contribution to the resources, when

considered with the proposed project and other cumulative projects, could be cumulatively considerable. In addition, temporary construction impacts of the project are not considered contributory to cumulative impacts, given the limited duration, localization, and the small scale of these impacts as well as the avoidance and minimization measures applied to them. Therefore, the cumulative analysis only considers potential cumulative long-term impacts of the proposed project and the other cumulative projects.

Long-term impacts to the following resources require avoidance and minimization measures as described earlier in this section:

- Community—minor acquisition of land
- Visual/Aesthetics—changes in views
- Cultural Resources—discovery of unknown resources during construction
- Water Quality—discharge of motor vehicles related pollutants
- Geology—potential for liquefaction
- Paleontology— discovery of unknown resources during construction
- Noise—traffic noise by sensitive receptors
- Biological Resources—removal of minor amount of wetlands, impact to oak trees, removal of vegetation that has the potential to support nesting birds

The Build Alternative would not result in long-term impacts associated with land use, growth, farmland, population and housing, recreation, air quality, hydrology and flood plain, mineral resources, hazards, and utilities. Therefore, it would not contribute to cumulative impacts in these areas.

Community

The proposed project would result in minor property acquisition along SR-74. No relocations would be required. The cumulative projects that would also result in property acquisition are the Ortega Highway/I-5 Interchange Project and the Camino Capistrano/I-5 Interchange Improvements. Though both of these projects would result in minor acquisitions, cumulatively, the impacts would remain less than significant. The magnitude of the impacts would not result in substantial impacts to population and housing, economic affects, or community disruption.

Geology

While geotechnical impacts may be associated with the foreseeable projects, by the very nature of the impacts (i.e., liquefaction, landslides and expansive and compressible soils), the constraints are most typically site-specific. Foreseeable projects would be required to comply with the applicable State and local requirements including, but not limited to, the Uniform Building Code and the Grading Code. The Build Alternative would be constructed to the Department's Standards and would not contribute to cumulative impacts.

Noise

Noise is a localized impact that is mitigated by individual projects. Sound walls have been proposed for this project since the traffic noise at certain sensitive receptors approaches or exceeds the federal noise abatement criteria. Long-term traffic noise would be minimized through construction of two sound walls. If other projects are determined to result in adverse noise impacts, appropriate avoidance, minimization, and mitigation measures would be incorporated into those projects. Therefore, the proposed project is not anticipated to contribute to long-term adverse cumulative noise impacts.

Aesthetics

The Build Alternative has incorporated avoidance and minimization measures to address potential project-related aesthetic impacts. This is accomplished through the use of landscaping, roadway alignment, wall treatments, and placing utilities underground. The Build Alternative is not expected to contribute to cumulative aesthetic impacts. When evaluating cumulative aesthetic impacts, a number of factors must be considered. In order for a cumulative aesthetic impact to occur, the proposed elements of the cumulative projects would need to be seen together or in proximity to each other. If the projects were not in proximity to each other, the viewer would not perceive them in the same scene. The proposed project traverses a developed portion of SR-74. None of the cumulative projects identified would alter the visual character or viewsheds along SR-74.

Cultural, Paleontological, and Historical Resources

The widening of SR-74 has the potential to adversely impact cultural resources; specifically, the Miguel Parra Adobe at 27832 Ortega Highway is located adjacent to the highway. As such, the widening project has been designed to avoid potential impacts to this resource. There are no cumulative projects that would directly or indirectly affect this resource. The site-specific nature of cultural resources reduces the potential for cumulative impacts. Standard conditions of approval and mitigation measures required for each of the cumulative projects would minimize impacts. It is through the data-recovery process that many artifacts have been discovered. As a result, the proposed project and cumulative projects would not be expected to contribute to an adverse cumulative impact. Similar standard conditions for monitoring and resource recovery would apply to paleontological resources that may be unearthed during construction of any of the cumulative projects.

Water Quality

Incorporation of structural and maintenance best management practices (BMPs) would reduce the proposed project's potential operational water quality impacts. Each of the cumulative projects would be required to incorporate similar measures. Therefore, even if projects are being implemented simultaneously, sufficient measures would be in place to minimize construction-related erosion and siltation.

The proposed project could result in a contribution to the regional (or cumulative) effect of the impacts to hydrologic function, water quality, and erosion/sedimentation potential downstream of the BSA in San Juan Creek's main channelIndirect impacts can affect low-quality wetlands (atypical) and riparian habitat through changes in velocity, inundation, or water quality. However, with application of the BMPs mentioned in the SWPPP, the proposed project would only minimally contribute to the cumulative (negative) effect on the water quality and hydraulic function of the San Juan Creek Watershed.

Biology

Cumulative biological effects are the collective result of any number of related or unrelated projects ongoing or proposed within a geographic area that, together, have a greater affect on

biological resources than any one project considered individually. The cumulative effects study area includes the San Juan Creek Watershed. From a biological perspective, this geographic area is considered appropriate because: 1) effects to water quality downstream may be compounded; 2) the presence of riparian vegetation in the BSA; and 3) the presence of CDFG and ACOE jurisdictional areas. The closest project to the BSA includes improvements to SR-74, just east of the BSA, in Rancho Mission Viejo's (RMV) Planning Area 1.

The BSA occurs within the SAMP and NCCP/MSAA/HCP study areas for southern Orange County. These regional efforts will help to ensure that any regional losses of sensitive plant and/or animal species are not substantial. There are no Threatened and/or Endangered species within the BSA. There are no cumulative losses to sensitive species anticipated from the proposed project. Raptors are common throughout the BSA region and within the San Juan Creek Watershed and RMV.

The proposed project could result in a minimal contribution to the regional (or cumulative) effect of impacts to wetland areas. The impacts to low-quality habitat of atypical wetlands would occur during construction. Application of the BMPs in the SWPPP would minimize potential effects on wetlands (atypical wetlands) in the region. With the mitigation for wetlands, the Build Alternative would result in no net loss to existing wetlands. Therefore, the Build Alternative would not contribute to cumulative losses of wetlands.

The proposed project would not contribute substantially to the cumulative impacts on sensitive biological resources. Wildlife and natural resources are widely distributed in RMV and southern California. The cumulative effects on biological resources would be minimized by using the avoidance and minimization measures outlined in Section 2.3. Since SR-74 is an existing roadway and no median barriers are proposed, the proposed project would not result in further habitat fragmentation; therefore, the proposed project would not contribute to the regional (or cumulative) effect of habitat fragmentation. Due to the proximity of sensitive habitat and species within RMV, along with areas of open space to be preserved in RMV, any impacts from project construction will not contribute substantially to the cumulative loss of species.

The Build Alternative provides the benefit of removal of invasive species to the extent practicable. The introduction of invasive plant species may degrade sensitive habitat. With

implementation of the avoidance, minimization, and mitigation measures for invasive species discussed in Section 2.3, the proposed project would have a minimal contribution to the regional (or cumulative) risk of the introduction and spread of invasive plant material. No invasive species will be planted in the BSA upon completion of project work, in accordance with Executive Order 13112, "Invasive Species."

Avoidance, Minimization and/or Mitigation Measures

No Build Alternative

The No Build Alternative is not expected to result in cumulative impacts; therefore, no avoidance, minimization; and/or compensation measures are proposed.

Build Alternative

The Build Alternative could result in cumulative impacts. With the implementation of all avoidance, mitigation, and/or mitigation measures outlined throughout Chapter 2, along with the measures to reduce impacts from other planned projects in coordination with the applicable CEQA and/or NEPA lead agencies and the resources agencies, the project's contribution to cumulative impacts would be reduced to less than significant.