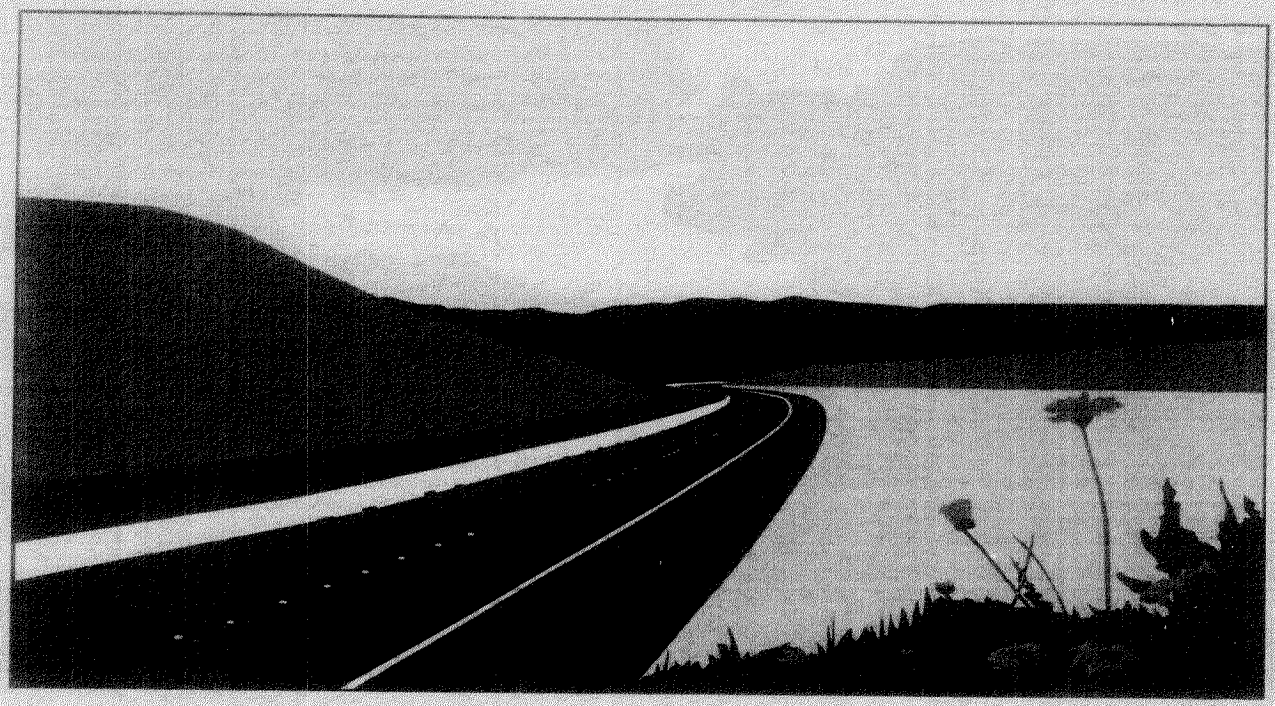
South Orange County Transportation Infrastructure Improvement Project (SOCTIIP)

Foothill-South

TCA EIR 4
FHWA-CA-EIS-04-01-D



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4.25 AFFECTED ENVIRONMENT, IMPACTS AND MITIGATION MEASURES RELATED TO RECREATION RESOURCES

The potential impacts of the SOCTIIP Alternatives on recreation resources are evaluated in detail in the Recreation Resources Technical Report (P&D Consultants, 2003) and are summarized in this Section. Refer to the Table of Contents for locations where this Technical Report is available for review or purchase.

As stated in Section 2.2, the A7C-FEC-M-Initial Alternative alignment evaluated in the Draft EIS/SEIR was refined in order to minimize environmental impacts and address engineering requirements. The A7C-FEC-M-Initial Alternative, with the design modifications, was selected as the Preferred Alternative. The Preferred Alternative will be a maximum of six lanes. The design modifications incorporated into the Alternative do not substantially alter the location of the alignment or project impacts. All utility relocations will occur within the designated disturbance limits for the Preferred Alternative. The refinements do not change impacts to recreation resources.

4.25.1 AFFECTED ENVIRONMENT RELATED TO RECREATION RESOURCES

Recreation resources are resources which provide refreshment, diversion, entertainment and/or amusement. Existing and planned recreation resources in the SOCTIIP study area include state parks, regional parks, community parks, neighborhood parks, mini parks, school recreational facilities, and private parks and recreational facilities and special use facilities. These recreational resources were defined for this analysis as follows:

- A state park was defined as a park that is owned/leased and operated by the State of California Department of Parks and Recreation. State parks can include beaches, open space, picnic areas, boating, trails, organized sports activities and/or parking.
- A regional park was defined as a park that is operated by the County of Orange Department of Harbors, Beaches and Parks. Regional parks can include open space, picnic areas, boating, trails, organized sports activities and/or parking.
- A community park was defined as a park that is usually 4.1 ha (10 ac) or larger in size which serves the recreational needs of several neighborhoods. Community parks may include multi-purpose sports fields, basketball courts, baseball fields, tennis courts, volleyball courts, swimming pools, community centers and/or parking.
- A neighborhood park was defined as a park that is usually greater than 0.41 ha (1 ac) and may be as large as 4.1 ha (10 ac) and which serves the recreation needs of a single neighborhood. Neighborhood parks may include playground equipment, a baseball field, a basketball half-court, a picnic area and/or parking.
- A mini park was defined as a park that is less than 0.41 ha (1 ac) and which usually has quiet game areas and children's play areas. Some mini parks may be natural areas with no improvement to protect natural resources and/or scenic vistas.
- School recreational facilities were defined as the playing fields, track fields and pools located within school complexes and which are for use by students during school hours and which are open to the public at other times.
- Private parks and recreational facilities were defined as resources owned and operated by homeowners' associations or other parties for the exclusive use of association members or other restricted memberships. Private facilities may include any of the amenities that other parks include and may be of any size.

- Special use facilities were defined as facilities designed to meet the requirements of specific recreational, social and cultural activities. Golf courses, sports parks, equestrian centers and open space with associated trails are considered special use facilities.

The study area for recreation resources is shown on Figure 4.25-1. Table 4.25-1 and Figure 4.25-2 show the existing and proposed recreation resources in the City of San Clemente in the SOCTIIP study area. Existing recreational resources in the City in the study area are one regional park, two public special use facilities, three neighborhood parks, three community parks, four school sports fields and five privately owned special use facilities. Proposed recreation resources in the City in the study area are three special use facilities, six neighborhood parks and two community parks.

Table 4.25-2 and Figure 4.25-3 show the existing and proposed recreation resources in the City of San Juan Capistrano in the SOCTIIP study area. Existing recreational resources in the City in the study area are three special use facilities, two mini parks, two neighborhood parks, two school sports fields and two privately owned special use facilities. Proposed recreation resources in the City in the study area are one special use facility and one community park.

Table 4.25-3 and Figure 4.25-4 show the existing and proposed recreation resources in the City of Dana Point in the SOCTIIP study area. Existing recreational resources in the City in the study area are one neighborhood park and one school sports field. One neighborhood park is proposed in the City in the study area.

Table 4.25-4 and Figure 4.25-5 show the existing recreation resources in the City of Laguna Hills in the SOCTIIP study area. Existing recreational resources in the City in the study area are one neighborhood park, one community park and one privately owned special use facility. There are no planned recreation resources in the SOCTIIP study area in the City.

There are no existing or proposed recreation resources in the Cities of Laguna Niguel and Laguna Woods within 0.4 km (0.25 mi) of the centerlines of the SOCTIIP build Alternatives.

Table 4.25-5 and Figure 4.25-6 show the existing recreation resources in the City of Mission Viejo in the SOCTIIP study area. Existing recreational resources in the City in the study area are one mini park, four neighborhood parks, four school sports fields and one privately owned special use facility. There are no planned recreation resources in the SOCTIIP study area in the City of Mission Viejo.

Table 4.25-6 and Figure 4.25-7 show the existing recreation resources in the City of Lake Forest in the SOCTIIP study area. The one existing recreational resource in the City in the study area is a mini park. There are no planned recreation resources in the SOCTIIP study area in this City.

Table 4.25-7 and Figure 4.25-8 show the existing and proposed recreation resources in unincorporated Orange County in the SOCTIIP study area. Existing recreational resources in the unincorporated County territory in the study area are two regional parks, two school sports fields, two privately owned special use facilities and one special use facility. Proposed recreation resources in the unincorporated County in the study area are two regional parks and one special use facility.

Table 4.25-8 and Figure 4.25-9 show the existing recreation resources in unincorporated San Diego County in the SOCTIIP study area. Existing recreational resources in unincorporated County territory in the study area are one state park (which includes an existing regional public bicycle trail) and one military community facility (MCB Camp Pendleton San Onofre Recreation Beach). There are no proposed recreation faculties in San Diego County in the SOCTIIP study area.

4.25.2 METHODOLOGY RELATED TO RECREATION RESOURCES

The study area for recreation resources was defined as the area within 0.4 km (0.25 mi) from the centerline of the SOCTIIP build Alternatives. This was determined to be a sufficient study area for recreation resources because it was assumed that impacts, either direct or indirect impacts, would not occur outside of a 0.4 km (0.25 mi) boundary per consultation with the noise assessment, visual impacts and air quality teams. Certain limited potential impacts, such as impacts from pile driving and some visual impacts were found to occur outside of this boundary and those impacts are included in the impact discussion of Section 4.25.3.

The existing and planned park and recreation facilities as defined in Section 4.25.1 in the SOCTIIP study area were identified based on several research approaches:

- Existing recreation facilities were identified based on detailed review of the "2000 Thomas Brothers Map – Orange County" and on review of General Plan Land Use and Recreation Elements for local jurisdictions in the study area.
- Once identified, the locations of existing facilities were confirmed through the use of aerial photographic maps (flight year 2000).
- Planned recreation resources and proposed modifications to existing facilities were identified based on the review of available planning and environmental documents for the jurisdictions in the SOCTIIP study area. The review included contacting city and county parks and recreation personnel, review of city and county General Plans including the Land Use, Open Space and Recreation Elements, park and recreation master plans, EIRs, park planning documentation and park standards guidelines.
- The existing resources were then plotted using Geographic Information System (GIS) mapping techniques on maps showing the alignments of the SOCTIIP build Alternatives and the 0.8 km (0.5 mi) wide area centered on the centerline of each build Alternative. Where the sites for planned facilities are known, those planned facilities were also mapped on the GIS system.

Information on existing and planned recreation resources was collected from available documentation (as described above), conversations with local jurisdictions' staff, field surveys, and windshield or drive-by surveys. The purpose of this data collection effort was to gather sufficient data to identify and describe the amenities and functions of each of the recreation resources in the SOCTIIP study area. Photographs were taken at each site for use in further understanding the facilities and amenities at each recreation use. For each recreation facility, the following data were collected:

- Owner, operator.
- Location, address or nearest intersection and local jurisdiction.
- Type of facility: active or passive.
- Amenities at the facility, including sports fields, picnic areas, trails, clubhouses, restrooms, parking, beaches, etc.

The assessment of the potential for adverse impacts on recreation resources was conducted in two phases.

4.25.2.1 Preliminary Assessment of Direct and Indirect Impacts

The first phase of assessment identified those recreation resources which would be partially or fully acquired to construct a specific SOCTIIP build Alternative, based on the identified disturbance limits for

each Alternative and the boundaries of recreation resources in the study area. The disturbance limits were provided by the TCA and then mapped on GIS base maps which included the boundaries of the recreation resources. The acquisition of recreation resource land~~property~~ for a SOCTIIP Alternative would be a direct adverse impact of that Alternative. Where a proposed recreation resource is known to be affected, it is noted as such. However, direct impacts on proposed resources could not always be quantified because the boundaries of planned resources are not always known.

The assessment reviewed all the recreation resources in the SOCTIIP study area and considered whether the resource was a sufficient distance from the centerline of the build Alternative and whether intervening topography or land uses would shield the recreation resource from potential indirect impacts associated with that SOCTIIP Alternative. In many cases, the combination of distance from the centerline and the presence of ridgelines and/or intervening urban/suburban land uses were determined to likely fully shield the recreation resource from indirect adverse impacts associated with the SOCTIIP build Alternatives.

Noise Assessment

Mestre Greve Associates (MGA 2003) identified generalized distances from the centerline for different road cross sections beyond which an Alternative would not result in noise levels greater than 66 decibels (dBA). For parks and recreation resources, the FHWA/Caltrans Noise Abatement Criteria (NAC) consider noise levels greater than 66 dBA to be of concern. Table 4.25-9 lists different road cross sections and the distance from a road centerline to the 66 dBA contour, assuming soft site conditions. Soft site conditions assume the area between the centerline and the 66 dBA contour is not developed in hard surfaces such as asphalt or concrete.

Air Quality Assessment

MGA (2003) identified a general criterion for preliminary assessment of air quality impacts on recreation resources. Based on models for estimating carbon monoxide (CO) and particulate matter less than 10 microns in diameter (PM10) concentrations, recreation resources within 45.7 m (150 ft) of the road centerline are in an area of concern. Recreation resources beyond 45.7 m (150 ft) from the centerline are not expected to experience adverse air quality impacts. Further, if a recreation resource is separated from the road by a row of buildings, a wall or intervening topography, that resource is outside the area of concern because the intervening structures or topography would shield the resource from air quality impacts. Therefore, for the first phase assessment, recreation resources which meet one or both of the following criteria were determined not to be subject to air quality impacts as a result of the SOCTIIP build Alternatives:

- Resource is more than 45.7 m (150 ft) from the centerline of the road.
- There is an intervening wall, row of buildings or topography between the recreation resource and the road, such that no air quality impact would occur.

Traffic Assessment

For the first phase assessment, recreation resources were determined not to experience adverse impacts related to traffic and circulation as a result of the SOCTIIP Alternatives if the build Alternative would not reduce or restrict access on the public road or roads which provide direct access to the resource.

Visual Assessment

For the first phase assessment, recreation resources were determined not to experience adverse impacts related to aesthetics if they met one or more of the following criteria:

- There is intervening topography between the resource and the road such that the line of sight between the two is substantially disrupted/discontinuous.
- There are intervening structures between the resource and the road such that the line of sight between the two is substantially disrupted/discontinuous.
- The resource is in an existing developed area and the introduction of a new or widened road would not substantially change views from the resource of developed areas.

4.25.2.2 Detailed Assessment of Indirect Impacts

The detailed assessment of indirect impacts on recreation resources potentially impacted by a SOCTIIP Alternative was determined by establishing ambient conditions for the recreation resources and assessing the change in these conditions, if any, as a result of the SOCTIIP Alternatives, for noise, traffic, air quality and aesthetics. Indirect impacts are those impacts that do not result in a direct take of land~~property~~, but which may affect the overall function of the recreation resource or a particular amenity at the recreation resource. Based on information collected for baseline conditions, air quality, traffic and noise levels were quantitatively assessed to determine the extent of impacts under the SOCTIIP Alternatives. Visual impacts were qualitatively assessed.

Based on the preliminary assessment described above, a number of resources were determined to either be directly impacted (land acquisition) or to not experience impacts based on distance and intervening uses. The remaining resources were then assessed for potential indirect impacts which could adversely affect the use and enjoyment of the recreation resources. This analysis considered the following possible impact categories:

- Short-term construction and long-term operations noise impacts.
- Short-term construction and long-term operations air quality impacts.
- Short-term construction and long-term operations traffic impacts.
- Short-term construction and long-term visual impacts.

The analysis of these potential impacts of the SOCTIIP Alternatives related to recreation uses depends in a large part on the analyses conducted in the following technical reports:

- Noise Assessment Technical Report (Mestre Greve Associates, 2003).
- Air Quality Technical Report (Mestre Greve Associates, 2003).
- Traffic and Circulation Technical Report (Austin Foust Associates, 2003).
- Visual Impacts Assessment Technical Report (P&D Consultants, 2003).

Each of these technical reports provides a detailed methodology for identifying and assessing potential adverse impacts of the SOCTIIP Alternatives related to these parameters. These methodologies and assessment strategies are described briefly in the following Sections.

Water Quality

- There are no indirect water quality impacts related to recreation resources. Water quality impacts are discussed in Section 4.9 (Affected Environment, Impacts and Mitigation Related to Water Quality). Because there are no adverse water quality impacts under the SOCTIIP build Alternatives, water quality is not assessed in this analysis of impacts in recreation resources.

Operations Noise Impacts

The County of Orange and the City of San Clemente Noise Ordinances do not regulate noise in recreation areas and uses. The operational noise standard used by FHWA and Caltrans is the 67 dBA (L_{eq}) noise level (23 CFR 722). In addition to residential areas (including residences, motels and hotels), the standard also applies to picnic areas, recreation areas, playgrounds, active sports areas, parks, schools, churches, libraries and hospitals. Energy-equivalent noise level (L_{eq}) criteria were used in assessing potential operational noise impacts to park and recreation facilities based on peak traffic levels and distance from the future centerline of each alternative. Peak traffic levels are defined as 7:00 AM to 10:00 AM and 3:00 PM to 6:00 PM during weekdays. Recreation resources experiencing SOCTIIP related L_{eq} levels greater than 66 dBA were considered to incur an adverse noise impact as a result of that alternative. This criterion assumes that there are no topographic barriers, soundwalls, rows of structures or extensive, stands of vegetation, etc. between the resource and road. These types of intervening barriers can result in reduced noise levels.

However, for operational noise, there is no universal standard that would apply to all of the recreation resources in the study area. Therefore, one guide used to evaluate the applicability of the noise standards is the frequency of human use. For recreation resources of frequent human use such as campgrounds, sports fields, golf courses, picnic and playground areas or other areas with outdoor facilities that encourage outdoor recreation use the FHWA and Caltrans residential operational noise standard of 67 dBA (L_{eq}) was used to evaluate impacts. No noise standard applies to areas of infrequent human use such as undeveloped open space and trails which support intermittent use. The following is a list of types of use and the applicability of the noise standard:

- Open space and trails. Noise standard applies only in areas of frequent human use such as campgrounds, sports fields, amphitheaters, etc. No noise standard applies to trails because trails do not support long-term lingering use.
- School sports fields. Noise standard applies.
- Golf courses. Noise standard applies.
- City and local parks. Noise standard applies.
- Regional and state parks. Noise standard applies only in areas of frequent human use such as campgrounds, sports fields and areas with outdoor facilities which encourage outdoor recreation use.
- Proposed resources. Noise standard applies at the time the resource is implemented.

Construction Noise Impacts

The County of Orange and the City of San Clemente Noise Ordinances do not regulate noise in recreation areas and uses. The operational noise standard used by FHWA and Caltrans is the 67 dBA (L_{eq}) noise level which is used to design sound walls along residential areas (23 CFR 722). In addition to residential areas, the standard also applies to picnic areas, recreation areas, playgrounds, active sports areas, parks, etc. Normally, operational standards are more stringent than standards that apply to short-term noise

sources such as construction. However, because there are no standards in the local Noise Ordinances for construction noise at recreation uses, the FHWA/Caltrans 67 dBA (L_{eq}) standard was used for evaluating whether the construction of the SOCTIIP Alternatives could result in substantial adverse noise impacts on recreation uses, as described below.

The standard of 67 dBA (L_{eq}) applies to the peak noise hour. L_{eq} is an average noise level, and was calculated for different construction scenarios in the Noise Assessment Technical Report. There are three primary sources for construction noise: pile driving, heavy construction and general construction. The distance to the 67 dBA (L_{eq}) for pile driving is 481.6 m (1,580 ft). The distance to the 67 (L_{eq}) for heavy construction is 215.2 m (706 ft). The distance to the 67 dBA (L_{eq}) for general construction is 38.4 m (126 ft). Any receptors or land uses, such as parks, closer than these distances would be projected to experience noise levels greater than 67 dBA (L_{eq}) during construction unless the line of sight is blocked by topography or buildings.

The distance to the 67 dBA (L_{eq}) from heavy and general construction noise is much less than for pile driving. As a result, the potential noise impacts assessed regarding construction noise are divided into construction noise and pile driving noise. For construction noise, measurements were calculated from the edge of the disturbance limits for each Alternative, because that is the closest location of the noise source to the recreation uses.

Of the three construction noise sources, pile driving has the potential to be the loudest. However, pile driving is limited to those areas requiring a pier or vertical support structure, for example, a bridge or an elevated ramp. Therefore, noise measurements for pile driving are taken from the edge of the proposed elevated structure requiring piles, which is why these measurements differ in the analysis from both the operational noise measurements taken from centerline and the construction noise measurements taken from the edge of the construction disturbance area. Pile driving is similar to a hammer hitting a nail. The impact point starts at the height of the pile and proceeds to get lower as the pile is driven into the ground. Because pile driving noise is usually reported in terms of the peak noise level, pile driving noise data must be converted to a L_{eq} noise level. If a pile driver impacts once every two seconds and the acoustic energy is contained within a 1 second period, then the peak noise levels can be converted into a L_{eq} level. The angle of the noise impact on some pile drivers is such that topography and buildings that block the line of sight for grading equipment and general construction equipment may not block the line of sight for pile driving. Therefore, intervening topography or structures may not necessarily reduce the construction noise level at receptors that are in the line of sight of certain pile driving activities. Therefore, "hard site" conditions were assumed and are reflected in the distance to the 67 dBA (L_{eq}) for pile driving. Finally, because the distance over which pile driving may result in a substantial adverse impact is so great (481.6 m (1,580 ft)), resources that were potentially screened out in the preliminary evaluation of impacts may be included as impacted solely by pile driving noise.

Assessment of Air Quality Impacts

The assessment of air quality impacts of the SOCTIIP Alternatives on recreation resources considered criteria developed by the South Coast Air Quality Management District (AQMD) for resources in close proximity to the roads. For both CO and particulate matter ten microns or smaller (PM10), substantial adverse impacts were assumed for those facilities at which the AQMD standards are exceeded as a result of a SOCTIIP build Alternative. The Air Quality Technical Report concluded that:

- The construction related short-term air quality impacts of the build Alternatives would exceed the defined threshold limits.

- None of the SOCTIIP build Alternatives results in an increase in the number or severity of air quality standard exceedences during operations.

As a result, the build Alternatives may result in short-term adverse air quality impacts during construction on recreation resources but would not be expected to result in adverse impacts during operations. Therefore, this analysis focused on the potential for the construction of the build Alternatives to result in short-term adverse air quality impacts on recreation resources. Resources greater than 45.7 m (150 ft) from the centerline would not be expected to experience adverse air quality impacts during construction. Resources within 45.7 m (150 ft) from the centerline were assumed to potentially experience short-term adverse air quality impacts, particularly related to dust and equipment fumes, as a result of their proximity to active construction areas. Mitigation measures provided in Section 4.7 (Affected Environment, Impacts and Mitigation Related to Air Quality) would substantially reduce these short-term air quality impacts. However, recreation resources within 45.7 m (150 ft) of the centerline of the build Alternatives would be subject to short-term adverse air quality impacts during construction.

Assessment of Traffic Impacts

The assessment of traffic impacts of the SOCTIIP Alternatives on recreation resources considered whether or not access to a facility would be substantially altered due to the project. A substantial change was defined as one in which traffic generated by the SOCTIIP Alternative would inhibit existing users from accessing a resource due to extensive traffic delays. For this analysis, delays were considered substantial if vehicular access to the resource increased by more than 20 minutes for neighborhood parks, 40 minutes for community parks and 60 minutes for regional and state parks as a result of the SOCTIIP Alternatives.

The Traffic and Circulation Technical Report provided detailed analysis of the impacts of the build Alternatives under several land use and circulation scenarios. Generally, any adverse impacts of the build Alternatives are limited to adverse impacts at individual intersections throughout the study area. None of these impacts would be expected to substantially affect travel times near/to area recreation resources because for many of the resources, the impacted intersections are some distance from the resource or there are alternative routes to the resources that do not experience adverse traffic impacts as a result of the build Alternatives. As a result, the focus of this analysis was to identify those resources whose direct access might be adversely impacted by a build Alternative.

Assessment of Visual Impacts

The assessment of visual quality impacts was considered in the Visual Impacts Assessment Technical Report. In general, an adverse impact was considered to occur if views to or from resources were previously unobstructed views of surrounding areas, those views were considered important and those views would include views of the features of the SOCTIIP build Alternatives. For example, a park or recreational facility in an urbanized area in close proximity to a highway or road facility would not be considered to experience substantial adverse visual impacts due to construction of the SOCTIIP Alternative. Additionally, sound walls would not be considered an adverse impact on recreation resources because it would simply be a wall at the edge of the road or resource. Conversely, a designated nature area that includes unimpaired views of the surrounding undeveloped areas could be adversely impacted, depending on the nature and degree to which views were affected by topography, elevation and other factors.

4.25.2.3 Section 4(f) Evaluation

Analysis of the potential impacts of the SOCTIIP Alternatives on publicly owned parks, recreation resources and wildlife refuges, consistent with the requirements of Section 4(f) of the Department of Transportation Act, is provided in Appendix H. A similar Section 4(f)-like evaluation for privately owned recreation resources, consistent with the Settlement Agreement, is provided in Appendix I.

4.25.3 IMPACTS RELATED TO RECREATION RESOURCES

This Section summarizes the potential adverse impacts of the SOCTIIP Alternatives related to the temporary use and permanent acquisition of land~~property~~, air quality (short-term), noise (short-term and long-term), traffic and visual on recreation resources in the study area. For each Alternative, the potentially affected resources and impacts on those resources are identified.

4.25.3.1 Construction Impacts Related to Recreation Resources

FEC-W- Alternative

As shown in Table 4.25-10 and Figure 4.25-10, the FEC-W-Initial will result in the temporary occupancy of land~~property~~ from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2~~ and the proposed San Juan Creek Regional Park~~. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the construction disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-11, the use of land~~property~~ from these recreation resources will result in adverse effects on amenities at the existing resources (Conservancy and SOSB) through the removal of open space~~ and recreation improvements and facilities. It is not known what amenities will potentially be provided at the proposed San Juan Creek Regional Park because no information about this planned resource is available at this time.~~ Based on the temporary occupancy of land~~property~~ at these resources, the FEC-W-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-10, the FEC-W-Ultimate will result in the temporary occupancy of land~~property~~ from the same resources as the FEC-W-Initial, although the amount of land~~property~~ affected is generally larger.

As shown on Table 4.25-12, adverse construction noise impacts of the FEC-W Alternative will occur at Tesoro High School, Talega Community Park, Pacific Golf Club, Vista Bahia Stadium Park, San Clemente Municipal Golf Course, SOSB Cristianitos Subunit 1, SOSB Trestles Subunit 2, MCB Camp Pendleton San Onofre Recreation Beach and SOSB Surfer Beach Subunit 3.

The FEC-W Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-12 with the exception of SOSB Cristianitos Subunit 1. There may be temporary access impacts during construction of this Alternative.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2~~ and the proposed San Juan Creek Regional Park~~. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with

mitigation, during construction. The FEC-W Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

FEC-M Alternative

As shown in Table 4.25-13 and Figure 4.25-11, the FEC-M-Initial will result in the temporary occupancy of ~~property~~ land from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2~~ and the proposed San Juan Creek Regional Park~~. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the construction disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-14, the use of ~~property~~ land from the existing recreation resources (Conservancy and SOSB) will result in adverse effects on amenities at these resources through the removal of open space~~ and recreation improvements and facilities~~. ~~It is not known what amenities will potentially be provided at the proposed San Juan Creek Regional Park because no information about this planned resource is available at this time.~~ Based on the temporary occupancy of ~~property~~ land at these resources, the FEC-M-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-13, the FEC-M-Ultimate will result in the temporary occupancy of ~~property~~ land from the same resources as the FEC-M-Initial, although the amount of ~~property~~ land affected is generally larger.

As shown on Table 4.25-15, adverse construction noise impacts of the FEC-M Alternative will occur at Tesoro High School, Talega Community Park, Pacific Golf Club, Vista Bahia Stadium Park, San Clemente Municipal Golf Course, SOSB Cristianitos Subunit 1, SOSB Trestles Subunit 2, MCB Camp Pendleton San Onofre Recreation Beach and SOSB Surfer Beach Subunit 3.

The FEC-M Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-15 with the exception of SOSB Cristianitos Subunit 1. There may be temporary access impacts during construction of this Alternative.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1~~,~~ and SOSB Trestles Subunit 2~~ and the proposed San Juan Creek Regional Park~~. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The FEC-M Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

CC Alternative

As shown in Table 4.25-16 and Figure 4.25-12, the CC-Initial will result in the temporary use of land~~property~~ from ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park, San Juan Capistrano Open Space and Trails, Ole Hanson Elementary School Sports Fields, San Clemente High School Sports Fields and San Clemente State Beach. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-17, the use of land~~property~~ from the existing recreation resources will result in adverse effects on amenities at these resources through the removal of open space~~ and recreation improvements and facilities~~. It is not known what amenities will potentially be provided at the

~~proposed San Juan Creek Regional Park and~~ proposed Prima Deshecha Regional Park because no information about these planned resources is available at this time. Based on the temporary use of land~~property~~ at these resources, the CC-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-16, the CC-Ultimate will result in the temporary use of land~~property~~ from the same resources as the CC-Initial, although the amount of land~~property~~ affected is generally greater.

As shown on Table 4.25-18, adverse construction noise impacts of the CC Alternative will occur at the Tesoro High School Sports Fields, Talega Golf Course, Vista Del Mar Elementary and Middle School Sports Fields, San Clemente High School Sports Fields, Ole Hanson Elementary School Sports Fields, Bonito Canyon Park, San Clemente Municipal Golf Course, Verde Park, San Luis Rey Park, San Clemente State Beach, Concordia Elementary School Play Fields and SOSB Cristianitos Subunit 1.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including ~~the proposed San Juan Creek Regional Park,~~ San Juan Capistrano Open Space and Trails, proposed Prima Deshecha Regional Park, proposed Our Lady of Fatima, Park Ole Hanson Elementary School Sports Fields, San Clemente High School Sports Fields, San Clemente State Beach and SOSB Cristianitos Subunit 1. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The CC Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

CC-ALPV Alternative

As shown in Table 4.25-19 and Figure 4.25-13, the CC-ALPV-Initial will result in the temporary occupancy of land~~property~~ from ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park and San Juan Capistrano Open Space and Trails. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-20, the use of land~~property~~ from the existing San Juan Capistrano Open Space and Trails will result in adverse effects on amenities at this resource through the removal of open space. It is not known what amenities would potentially be provided at the proposed ~~San Juan Creek and~~ Prima Deshecha Regional Park~~s~~ because no information about these planned resources is available at this time. Based on temporary occupancy of land~~property~~ at these resources, the CC-ALPV-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-19, the CC-ALPV-Ultimate will result in the temporary occupancy and/or permanent acquisition of land~~property~~ from the same resources as the CC-ALPV-Initial, although the amount of land~~property~~ affected is generally greater.

As shown on Table 4.25-21, adverse construction noise impacts of the CC-ALPV Alternative will would occur at the Tesoro High School Sports Fields, Talega Golf Course and Vista Del Mar Elementary and Middle School Sports Fields.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including the ~~proposed San Juan Creek Regional Park,~~ San Juan Capistrano Open Space and Trails and proposed Prima Deshecha Regional Park. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation,

during construction. The CC-ALPV Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

A7C-ALPV Alternative

As shown in Table 4.25-22 and Figure 4.25-14, the A7C-ALPV-Initial will result in the temporary occupancy of landproperty from ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park and existing Talega Golf Course. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-23, the use of landproperty from these recreation resources will result in adverse effects on amenities at Talega Golf Course from the removal of open space ~~and recreation improvements and facilities~~. It is not known what amenities would potentially be provided at the proposed ~~San Juan Creek and~~ Prima Deshecha Regional Parks because no information about these planned resources is available at this time. Based on the temporary occupancy of landproperty at these resources, the A7C-ALPV-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-22, the A7C-ALPV-Ultimate will result in the temporary occupancy of landproperty from the same resources as the A7C-ALPV-Initial although the amount of landproperty affected is generally greater.

As shown on Table 4.25-24, adverse construction noise impacts of the A7C-ALPV Alternative will would occur at the Tesoro High School Sports Fields, Talega Golf Course, Vista Del Mar Elementary and Middle School Sports Fields and Talega Swim and Athletic Club.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including the ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park, Talega Golf Course and Ladera Ranch Open Space. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The A7C Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

A7C-FEC-M Alternative

As shown in Table 4.25-25 and Figure 4.25-15, the A7C-FEC-M-Initial will result in the temporary occupancy of landproperty from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2 ~~and the proposed San Juan Creek Regional Park~~. For the purposes of the evaluation of project impacts to recreation resources, the A7C-FEC-M-Initial Alternative is essentially the same as the Preferred Alternative. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-26, the use of landproperty from these recreation resources will result in adverse effects on amenities at the existing resources (Conservancy and SOSB) through the removal of open space ~~and recreation improvements and facilities~~. ~~It is not known what amenities will potentially be provided at the proposed San Juan Creek Regional Park because no information about the planned amenities at this proposed Park is available at this time.~~ Based on the temporary occupancy of landproperty at these resources, the A7C-FEC-M-Initial will result in an adverse impact on these resources. Similar to the A7C-FEC-M-Initial Alternative, the Preferred Alternative will result in an

adverse impact on the Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2.

As shown in Table 4.25-25, the A7C-FEC-M-Ultimate will result in the temporary occupancy of landproperty from the same resources as the A7C-FEC-M-Initial, although the amount of landproperty affected is generally larger. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial corridor Alternative; the Preferred Alternative would be a maximum of six lanes. Impacts of the Preferred Alternative would be similar to those of the A7C-FEC-M-Initial Alternative.

As shown on Table 4.25-27, temporary adverse construction noise impacts of the A7C-FEC-M Alternative will occur at Tesoro High School, Talega Community Park, Pacific Golf Club, Vista Bahia Stadium Park, San Clemente Municipal Golf Course, SOSB Cristianitos Subunit 1, SOSB Trestles Subunit 2, MCB Camp Pendleton San Onofre Recreation Beach and SOSB Surfer Beach Subunit 3. Temporary adverse noise impacts of the Preferred Alternative will also occur to these resources.

The A7C-FEC-M Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown in Table 4.25-27 with the exception of SOSB Cristianitos Subunit 1. There may be temporary access impacts during construction of this Alternative. The Preferred Alternative will have temporary access impacts similar to the A7C-FEC-M Alternative.

During construction of ~~this~~ these Alternatives, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including ~~the proposed San Juan Creek Regional Park,~~ The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1 and SOSB Trestles Subunit 2. Those impacts will be substantially mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The A7C-FEC-M/Preferred Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

AIO Alternative

As shown in Table 4.25-28 and Figure 4.25-16, the AIO Alternative will result in the temporary occupancy of landproperty from Las Flores Elementary School Sports Fields, Ladera Ranch Open Space, proposed Ladera Ranch Open Space, ~~proposed San Juan Creek Regional Park,~~ San Juan Capistrano Open Space and Trails and proposed Prima Deshecha Regional Park. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-29, the use of landproperty from these recreation resources will result in adverse effects on amenities at these resources from the removal of open space ~~and recreation improvements and facilities~~. Based on the types of amenities removed by the temporary occupancy of landproperty at these resources, the AIO Alternative will result in an adverse impact on these resources.

As shown on Table 4.25-30, adverse construction noise impacts of the AIO Alternative will occur at the Las Flores Elementary School Sports Fields and Pacific Golf Club.

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including the Las Flores Elementary School Sports Fields, Ladera Ranch Open Space, proposed Ladera Ranch Open Space, ~~proposed San Juan Creek Regional Park,~~ San Juan Capistrano Open Space and Trails, proposed San Juan Hills High School Sports Fields, proposed Prima Deshecha Regional Park and O'Neill Regional Park. Those impacts will be substantially

mitigated based on mitigation measures provided in Section 4.7. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The AIO Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

I-5 Alternative

As shown in Table 4.25-31 and Figure 4.25-17, the I-5 Alternative will result in the temporary occupancy of land~~property~~ from Mission Viejo High School Sports Fields. Areas identified as temporary occupancy are in addition to the areas identified for permanent acquisition. Temporary occupancy defines areas that will be within the disturbance limits and which will be used only during construction of a build Alternative. After the completion of construction, the temporary occupancy areas will be restored to their pre-project conditions. As shown in Table 4.25-32, the use of land~~property~~ from this recreation resource will result in adverse effects on amenities at this resource. Based on the types of amenities removed by the temporary occupancy of land~~property~~ at this resource, the I-5 Alternative will result in an adverse impact on this resource.

Also shown on Table 4.25-33, adverse construction noise impacts of the I-5 Alternative will occur at the following resources:

- Cavanaugh Gowdy Park
- Clarington Park
- Sycamore Park
- La Tierra Elementary School Sports Fields
- Aegean Park
- Doria Park
- Mackenzie Park
- Knotty Pine Park
- La Paz Middle School Sports Fields
- Mission Viejo High School Sports Fields
- Mission Viejo Golf Course
- Madrid Fore Park
- Moulton Ranch Park
- Grenada Park
- Cabot Park
- Capistrano Valley High School Sports
- Fields
- Rancho Capistrano Recreation Fields
- Serra Park
- El Camino Real Park
- Marbella Golf and Country Club
- Stone Field Park and Soccer Field
- Serra High School Sports Fields
- San Juan Elementary School Sports Fields
- Buccheim Fields
- Historic Town Center Archaeological Park
- San Juan Hills Country Club
- Descanso Veterans Park
- Creekside Park
- Sunset Park
- Mira Costa Park
- Shorecliffs Golf Course
- Park at Calle Juarez and Calle Guadalajara
- San Gorgonio Park
- Shorecliffs Middle School Sports Fields
- San Clemente High School Sports Fields
- Ole Hanson Elementary School Sports Fields
- Verde Park
- Bonito Canyon Park
- San Clemente Municipal Golf Course
- San Clemente State Beach
- San Luis Rey Park
- Concordia Elementary School Sports Fields
- SOSB Cristianitos Subunit 1
- SOSB Trestles Subunit 2

During construction of this Alternative, some short-term dust and construction emissions may result in temporary adverse impacts on adjacent uses, including 28 recreation resources as shown in Table 4.25-33. Those impacts will be substantially mitigated based on mitigation measures provided in the Air Quality Technical Report. However, these resources could experience substantial adverse short-term air quality impacts, even with mitigation, during construction. The I-5 Alternative could result in short-term adverse air quality impacts during construction based on the findings of the Air Quality Technical Report.

No Action Alternative - OCP-2000

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any additional SOCTIIP related transportation improvements. Therefore, the No Action Alternative-OCP-2000 will not result in adverse construction impacts to any recreation resources.

No Action Alternative - RMV

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any SOCTIIP related transportation additional improvements. Therefore, the No Action Alternative-RMV will not result in adverse construction impacts to any recreation resources.

4.25.3.2 Long-Term Impacts Related to Recreation Resources

FEC-W Alternative

As shown in Table 4.25-10 and Figure 4.25-10, the FEC-W-Initial will result in the permanent acquisition of land~~property~~ from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2 ~~and the proposed San Juan Creek Regional Park~~. As shown in Table 4.25-11, the use of land~~property~~ from these recreation resources will result in adverse effects on amenities at these resources through the removal of open space ~~and recreation improvements and facilities~~. ~~It is not known what amenities will potentially be provided at the proposed Park because no information about these planned resources is available at this time.~~ Based on the types of amenities removed by the permanent acquisition of land~~property~~ at these resources, the FEC-W-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-10, the FEC-W-Ultimate will result in the permanent acquisition of land~~property~~ from the same resources as the FEC-W-Initial, although the amount of land~~property~~ affected is generally larger.

As shown in Figure 4.25-12 and Table 4.25-13, the FEC-W Alternative will fragment SOSB Cristianitos Subunit 1, ~~proposed San Juan Creek Regional Park~~ and The Donna O'Neill Land Conservancy. The FEC-W Alternative will divide SOSB Subunit 1, resulting in a trail crossing from the City of San Clemente onto SOSB Subunit 1 being on the west side of the corridor and San Mateo Campground being on the east side. The corridor disturbance and right-of-way limits will result in the removal of the RV tank pumping station and several fire roads in the north part of SOSB Cristianitos Subunit 1. The design of the FEC-W Alternative includes structures (wildlife crossings and utility maintenance access roads) in SOSB Subunit 1 which would allow park users to cross between the east and west sides of the park under the corridor. These fragmentation impacts will be adverse on SOSB Subunit 1.

~~The fragmentation impact on proposed San Juan Creek Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The TCA would work with the park development to minimize future impacts. The design of the FEC-W Alternative includes one structure over San Juan Creek proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of this park.~~

This Alternative will divide The Donna O'Neill Land Conservancy, with parts of the Conservancy on the east and west sides of the corridor. The corridor disturbance and right-of-way limits will result in the removal of open space and trails in the north part of the Conservancy. The design of this Alternative includes structures over Cristianitos Road and another private road that will allow Conservancy users to cross between the east and west sides of the corridor.

In summary, the fragmentation impacts of the FEC-W Alternative will be adverse on these three recreation resources.

As shown on Table 4.25-12, adverse noise impacts due to operation of the FEC-W Alternative will occur at Tesoro High School, SOSB Cristianitos Subunit 1 and MCB Camp Pendleton San Onofre Recreation Beach. Adverse operational noise impacts will occur at SOSB Surfer Beach Subunit 3 only during operation of the FEC-W Ultimate configuration.

The FEC-W Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-12 with the exception of SOSB Cristianitos Subunit 1. Permanent access is provided in the design and right-of-way for the FEC-W Alternative.

Operation of the FEC-W Alternative will not result in substantial adverse long-term local air quality impacts based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-12, the FEC-W Alternative will result in adverse changes in views from The Donna O'Neill Land Conservancy and SOSB Cristianitos Subunit 1. The FEC-W Alternative will result in adverse changes in views from the following proposed recreation resource if this resource becomes operational during the construction of this Alternative: San Juan Creek Regional Park. These changes in views will be adverse.

This Alternative will result in changes in views from Tesoro High School Sports Fields, General Thomas F. Riley Wilderness Park, Caspers Regional Park, Talega Community Park, Pacific Golf Club, SOSB Trestles Subunit 2, MCB Camp Pendleton San Onofre Recreation Beach and SOSB Surfer Beach Subunit 3. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

FEC-M Alternative

As shown in Table 4.25-13 and Figure 4.25-11, the FEC-M-Initial will result in the permanent acquisition of land~~property~~ from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2 ~~and the proposed San Juan Creek Regional Park~~. As shown in Table 4.25-14, the use of land~~property~~ from the existing recreation resources (Conservancy and SOSB) will result in adverse effects on amenities at these resources through the removal of open space ~~and recreation improvements and facilities. It is not known what amenities will potentially be provided at the proposed San Juan Creek Regional Park because no information about this planned resource is available at this time.~~ Because

amenities will be removed by the permanent acquisition of land~~property~~ at these resources, the FEC-M-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-13, the FEC-M-Ultimate will result in the permanent acquisition of land~~property~~ from the same resources as the FEC-M-Initial, although the amount of land~~property~~ affected is generally larger.

As shown in Figure 4.25-11 and Table 4.25-13, the FEC-M Alternative will fragment SOSB Cristianitos Subunit 1, ~~proposed San Juan Creek Regional Park~~ and The Donna O'Neill Land Conservancy. The FEC-M Alternative will divide SOSB Subunit 1. The FEC-M Alternative alignment through SOSB Cristianitos Subunit 1 is the same as the FEC-W Alternative alignment through this resource. Therefore, the FEC-M Alternative will divide SOSB Cristianitos Subunit 1 the same as the FEC-W Alternative. Refer to Section 4.25.3.2 for a discussion of the fragmentation of SOSB Cristianitos Subunit 1 under the FEC-W Alternative.

~~The fragmentation impact on proposed San Juan Creek Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the FEC-M Alternative includes one structure over San Juan Creek within proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of the park.~~

This Alternative will divide The Donna O'Neill Land Conservancy, with parts of the Conservancy on the east and west sides of the corridor. The corridor disturbance and right-of-way limits will result in the removal of open space and trails in the north part of the Conservancy. The design of this Alternative includes structures over Cristianitos Road and another private road that will allow Conservancy users to cross between the east and west sides of the corridor.

In summary, the fragmentation impacts of the FEC-M Alternative will be adverse on these three recreation resources.

As shown on Table 4.25-15, adverse noise impacts due to operation of the FEC-M Alternative will occur at Tesoro High School, SOSB Cristianitos Subunit 1 and MCB Camp Pendleton San Onofre Recreation Beach. Adverse operational noise impacts will occur at SOSB Surfer Beach Subunit 3 only during operation of the FEC-M Ultimate configuration.

The FEC-M Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 5.18-3 with the exception of SOSB Cristianitos Subunit 1. Permanent access is provided in the design and right-of-way for the FEC-M Alternative.

Operation of the FEC-M Alternative will not result in substantial adverse long-term local air quality impacts based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-15, the FEC-M Alternative will result in adverse changes in views from The Donna O'Neill Land Conservancy and SOSB Cristianitos Subunit 1. ~~The FEC-M Alternative will result in adverse changes in views from the following proposed recreation resource if this resource becomes operational during the construction of this Alternative: San Juan Creek Regional Park.~~ These changes in views will be adverse.

This Alternative will result in changes in views from Tesoro High School Sports Fields, General Thomas F. Riley Wilderness Park, Caspers Regional Park, Talega Community Park, Pacific Golf Club, SOSB Trestles Subunit 2, MCB Camp Pendleton San Onofre Recreation Beach and SOSB Surfer Beach Subunit

3. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

CC Alternative

As shown in Table 4.25-16 and Figure 4.25-12, the CC-Initial will result in the permanent acquisition of land~~property~~ from Ole Hanson Elementary School Sports Fields, San Clemente High School Sports Fields, San Juan Capistrano Open Space and Trails, San Clemente State Beach, SOSB Cristianitos Subunit 1~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. The permanent acquisition of land~~property~~ on SOSB Cristianitos Subunit 1 under this Alternative is for an EDBs southeast of Cristiantos Road and east of I-5. As shown in Table 4.25-17, the use of land~~property~~ from these recreation resources (Ole Hanson School Sports Fields, San Clemente High School Sports Fields, San Juan Capistrano Open Space and Trails, San Clemente State Beach and SOSB) will result in adverse effects on amenities at these resources through the removal of open space~~ and recreation improvements and facilities~~. It is not known what amenities will potentially be provided at the proposed ~~San Juan Creek and~~ Prima Deshecha Regional Parks because no information about these planned resources is available at this time. Because amenities will be removed by the permanent acquisition of land~~property~~ at these resources, the CC-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-16, the CC-Ultimate will result in the permanent acquisition of land~~property~~ from the same resources as the CC-Initial, although the amount of land~~property~~ affected is generally greater.

As shown in Figure 4.25-12 and Table 4.25-16, the CC Alternative will fragment ~~proposed San Juan Creek Regional Park and~~ proposed Prima Deshecha Regional Park. ~~The CC Alternative will divide proposed San Juan Creek Regional Park; however, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the CC Alternative includes one structure over San Juan Creek within proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of this proposed park.~~

The fragmentation impact on proposed Prima Deshecha Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the CC Alternative does not include any structures within proposed Prima Deshecha Regional Park which could allow park users to cross between the east and west sides of this proposed park.

As shown on Table 4.25-18, adverse noise impacts due to operation of the CC Alternative will occur at Tesoro High School Sports Fields, San Clemente High School Sports Fields and Vista Del Mar Elementary and Middle School Sports Fields and SOSB Cristianitos Subunit 1.

The CC Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-18.

Operation of the CC Alternative will not result in substantial adverse long-term local air quality impacts, based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-18, the CC Alternative will result in adverse changes in views from the following proposed recreation resources if these resources become operational during the construction of this Alternative: San Juan Creek Regional Park, Prima Deshecha Regional Park and Talega Community Park West.

This Alternative will result in changes in views from the Tesoro High School Sports Fields, General Thomas F. Riley Wilderness Park, Ladera Ranch Open Space, San Juan Capistrano Open Space and Trails, Vista Del Mar Elementary and Middle School Sports Fields, Talega Golf Course, Shorecliffs Middle School Sports Fields, proposed Marblehead Sports Park, San Clemente High School Sports Fields, Ole Hanson Elementary School Sports Fields, proposed Our Lady of Fatima Park, San Clemente Municipal Golf Course, San Luis Rey Park, San Clemente State Beach, proposed South San Clemente Neighborhood Park (west) and SOSB Cristianitos Subunit 1. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

CC-ALPV Alternative

As shown in Table 4.25-19 and Figure 4.25-13, the CC-ALPV-Initial will result in the permanent acquisition of land~~property~~ from ~~proposed San Juan Creek Regional Park,~~ San Juan Capistrano Open Space and Trails and proposed Prima Deshecha Regional Park. As shown in Table 4.25-20, the use of land~~property~~ from these recreation resources will result in adverse effects on amenities at these resources through the removal of open space. It is not known what amenities will potentially be provided at the proposed ~~San Juan Creek and~~ Prima Deshecha Regional Parks because no information about these planned resources is available at this time. Because amenities will be removed by the permanent acquisition of land~~property~~ at these resources, the CC-ALPV-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-19, the CC-ALPV-Ultimate will result in the permanent acquisition of land~~property~~ from the same resources as the CC-ALPV-Initial, although the amount of land~~property~~ affected is generally greater.

As shown in Figure 4.25-13 and Table 4.25-19, the CC-ALPV Alternative will fragment ~~proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. The CC-ALPV Alternative alignment through these proposed Parks is similar to the CC Alternative alignment through these resources. Therefore, the CC-ALPV Alternative will divide these resources the same as the CC Alternative. Section 4.25.3.2 provides a discussion of the fragmentation of ~~proposed San Juan Creek Regional Park and~~ proposed Prima Deshecha Regional Park under the CC Alternative.

As shown on Table 4.25-21, adverse noise impacts due to operation of the CC-ALPV Alternative will would occur at Tesoro High School Sports Fields.

The CC-ALPV Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-21.

Operation of the CC-ALPV Alternative will not result in substantial adverse long-term local air quality impacts based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-21, the CC-ALPV Alternative will result in adverse changes in views from the following proposed recreation resources if these resources become operational during the construction of this Alternative: ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park and Talega Community Park West.

This Alternative will result in changes in views from the Tesoro High School Sports Fields, General Thomas F. Riley Wilderness Park, Ladera Ranch Open Space, San Juan Capistrano Open Space and Trails, Vista Del Mar Elementary and Middle School Sports Fields and Talega Golf Course. The change

in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

A7C-ALPV Alternative

As shown in Table 4.25-22 and Figure 4.25-14, the A7C-ALPV-Initial will result in the permanent acquisition of land~~property~~ from ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park and existing Talega Golf Course. As shown in Table 4.25-23, the use of land~~property~~ from Talega Golf Course will result in adverse effects on amenities at this resource from the removal of open space ~~and recreation improvements and facilities~~. It is not known what amenities will potentially be provided at the proposed ~~San Juan Creek and~~ Prima Deshecha Regional Parks because no information about these planned resources is available at this time. Because amenities will be removed by the permanent acquisition of land~~property~~ at these resources, the A7C-ALPV-Initial will result in an adverse impact on these resources.

As shown in Table 4.25-22, the A7C-ALPV-Ultimate will result in the permanent acquisition of land~~property~~ from the same resources as the A7C-ALPV-Initial although the amount of land~~property~~ affected is generally greater.

As shown in Figure 4.25-14 and Table 4.25-22, the A7C-ALPV Alternative will fragment Talega Golf Course~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. The A7C-ALPV Alternative will divide Talega Golf Course, resulting in tee boxes and putting green located on the north and south sides of the corridor. The corridor right-of-way limits will result in the permanent removal of the clubhouse, a water feature, golf cart path, fairways, putting greens and tee boxes. The design of the A7C-ALPV Alternative does not include any structures within Talega Golf Course which would allow Golf Course users to cross between the east and west sides of the Golf Course across the corridor. It is anticipated that Talega Golf Course could not operate under the impacts of this Alternative. These impacts will be adverse on Talega Golf Course.

~~The A7C-ALPV Alternative will also divide proposed San Juan Creek Regional Park; however, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the A7C-ALPV Alternative includes one structure over San Juan Creek proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of this proposed park.~~

The fragmentation impact on proposed Prima Deshecha Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the A7C-ALPV Alternative does not include any structures proposed Prima Deshecha Regional Park which could allow park users to cross between the east and west sides of this proposed park.

As shown on Table 4.25-24, adverse noise impacts due to operation of the A7C-ALPV Alternative will would occur at Tesoro High School Sports Fields and Talega Golf Course.

The A7C-ALPV Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.46-24.

Operation of the A7C-ALPV Alternative will not result in substantial adverse long-term local air quality impacts, based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-24, the A7C-ALPV Alternative will result in adverse changes in views from the Talega Golf Course. The A7C-ALPV Alternative will result in adverse changes in views from the following proposed recreation resources if these resources become operational during the construction of this Alternative: San Juan Creek Regional Park, Prima Deshecha Regional Park and Talega Community Park West.

This Alternative will result in changes in views from the Tesoro High School Sports Fields, Vista Del Mar Elementary and Middle School Sports Fields, General Thomas F. Riley Wilderness Park and Ladera Ranch Open Space. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

A7C-FEC-M Alternative

As shown in Table 4.25-25 and Figure 4.25-15, the A7C-FEC-M-Initial will result in the permanent acquisition of landproperty from The Donna O'Neill Land Conservancy, SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2 and the proposed San Juan Creek Regional Park. Implementation of the Preferred Alternative would require acquisition of approximately 157 acres of the 1,284-acre Conservancy resulting in an adverse impact to open space resource.

SOSB Subunit 1 would be adversely impacted by acquisition of an easement of 290 acres of the 1,393-acre subunit for right-of-way and construction of the corridor. Additionally, approximately 41 acres would be temporarily affected due to the Department of the Navy to construction staging activities. The Navy reserved the right to grant easements for right-of-way in the lease. The TCA will acquire an easement from the Navy.

SOSB Subunit 2 in the area adjacent to the I-5 would be impacted by acquisition of approximately 8.6 acres of easement from the Department of the Navy and approximately 1.0 acre of temporary impacts. As shown in Table 4.25-26, the use of landproperty from the existing recreation resources (Conservancy and SOSB) will result in adverse effects on amenities at these resources through the removal of open space and recreation improvements and facilities. It is not known what amenities will potentially be provided at the proposed San Juan Creek Regional Park because no information about this planned resource is available at this time. Because amenities will be removed by the permanent acquisition of landproperty at these resources, the A7C-FEC-M-Initial will result in an adverse impact on these resources. Similar to the A7C-FEC-M-Initial Alternative, the Preferred Alternative will result in an adverse impact on these resources.

As shown in Table 4.25-25, the A7C-FEC-M-Ultimate will result in the permanent acquisition of landproperty from the same resources as the A7C-FEC-M-Initial, although the amount of landproperty affected is generally larger. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial corridor Alternative; the Preferred Alternative will be a maximum of six lanes. Impacts of the Preferred Alternative would be similar to those of the A7C-FEC-M-Initial Alternative.

As shown in Figure 4.25-15 and Table 4.25-25, the A7C-FEC-M Alternative will fragment SOSB Cristianitos Subunit 1, proposed San Juan Creek Regional Park and The Donna O'Neill Land Conservancy. The A7C-FEC-M Alternative will divide SOSB Subunit 1. The A7C-FEC-M Alternative alignment through SOSB Cristianitos Subunit 1 is similar to the FEC-W Alternative alignment through this resource. Therefore, the A7C-FEC-M Alternative will divide SOSB Cristianitos Subunit 1 the same as the FEC-W Alternative. As previously stated, the A7C-FEC-M-Initial Alternative, with the design modifications, was selected as the Preferred Alternative. Refinements to the alignment were made in order to minimize environmental impacts and address engineering requirements, but they do not change

project impacts. Therefore, consistent with A7C-FEC-M, the Preferred Alternative will divide SOSB Cristianitos Subunit 1. Refer to Section 4.25.3.2 for a discussion of the fragmentation of SOSB Cristianitos Subunit 1 under the FEC-W Alternative.

~~The fragmentation impact on Proposed San Juan Creek Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the A7C-FEC-M Alternative includes one structure over San Juan Creek within Proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of the park.~~

~~This~~ These Alternatives will divide The Donna O'Neill Land Conservancy, with parts of the Conservancy on the east and west sides of the corridor. The corridor disturbance and right-of-way limits will result in the removal of open space and trails in the north part of the Conservancy. The design of this Alternative includes structures over Cristianitos Road and another private road that will allow Conservancy users to cross between the east and west sides of the corridor.

In summary, the fragmentation impacts of the A7C-FEC-M and Preferred Alternative will be adverse on these three recreation resources.

As shown on Table 4.25-27, adverse noise impacts due to operation of the A7C-FEC-M Alternative will occur at Tesoro High School, SOSB Cristianitos Subunit 1 and MCB Camp Pendleton San Onofre Recreation Beach. Adverse noise impacts of the Preferred Alternative will also occur to these resources. Adverse operational noise impacts will occur at SOSB Surfer Beach Subunit 3 only during operation of the A7C-FEC-M Ultimate configuration. The Preferred Alternative is proposed as an Initial Corridor only. Therefore, adverse operational noise impacts will not occur at SOSB Surfer Beach Subunit 3 as a result of implementation of the Preferred Alternative.

The A7C-FEC-M Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-27 with the exception of SOSB Cristianitos Subunit 1. Permanent access is provided in the design and right-of-way for the A7C-FEC-M Alternative. Permanent access is also provided in the design and right-of-way for the Preferred Alternative. The Preferred Alternative will not permanently remove any access to recreation resources. During construction, access would be maintained by rerouting users to temporary access routes.

Operation of the A7C-FEC-M/Preferred Alternative will not result in substantial adverse long-term local air quality impacts based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-27, the A7C-FEC-M Alternative will result in adverse changes in views from The Donna O'Neill Land Conservancy and SOSB Cristianitos Subunit 1. ~~The A7C-FEC-M Alternative will result in adverse changes in views from the following proposed recreation resources if these resources become operational during the construction of this Alternative: San Juan Creek Regional Park. These changes in views will be adverse.~~ The Preferred Alternative would also result in adverse changes in views to the resources listed above. It should, however, be noted that project refinements have resulted in a reduction in the number of utility poles/towers near the entrance to the San Mateo Campground on SOSB Cristianitos Subunit 1. While some of the new infrastructure that will be constructed as part of the project may be of greater height than what currently exists, project changes will reduce the overall visual clutter in this area by reducing the total number of poles and towers.

~~This~~ The A7C-FEC-M/Preferred Alternative will result in changes in views from Tesoro High School Sports Fields, General Thomas F. Riley Wilderness Park, Caspers Regional Park, Talega Community Park, Pacific Golf Club, SOSB Trestles Subunit 2 and MCB Camp Pendleton Green Beach and San

Onofre Recreation Beach. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

AIO Alternative

As shown in Table 4.25-28 and Figure 4.25-16, the AIO Alternative will result in the permanent acquisition of land~~property~~ from the existing Las Flores Elementary School Sports Fields, San Juan Capistrano Open Space and Trails and Ladera Ranch Open Space and the proposed Ladera Ranch Open Space~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park and proposed San Juan Hills High School. As shown in Table 4.25-29, the use of land~~property~~ from the existing recreation resources (Las Flores Elementary School Sports Fields and Ladera Ranch Open Space) will result in adverse effects on amenities at these resources from the removal of open space~~ and recreation improvements and facilities~~. It is not known what amenities will potentially be provided at the ~~proposed San Juan Creek Regional Park,~~ proposed Prima Deshecha Regional Park and proposed Ladera Ranch Open Space because no information about these planned resources is available at his time. Because amenities will be removed by the permanent acquisition of land~~property~~ at these resources, the AIO Alternative will result in an adverse impact on these resources. However, use of the Ladera Ranch Open Space for this Alternative is not consistent with the terms of Conservation Easement or its amendments.

As shown in Figure 4.25-16 and Table 4.25-28, the AIO Alternative will cross proposed Ladera Ranch Open Space~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. The AIO Alternative will cross proposed Ladera Ranch Open Space, with open space on the west and east side of Antonio Parkway. The design of the AIO Alternative does not include any structures proposed Ladera Ranch Open Space which would allow users to cross between the east and west sides of this Open Space across the road. Because this open space is already fragmented by existing Antonio Parkway, the AIO Alternative would not adversely fragment this open space.

~~The AIO Alternative generally assumes the alignment of Antonio Parkway/Avenida La Pata as shown in the MPAH, which itself bisect the proposed San Juan Creek Regional Park. Therefore, the AIO Alternative will bisect the proposed San Juan Creek Regional Park in a similar manner. Because the Park is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the AIO Alternatives includes one structure over San Juan Creek proposed San Juan Creek Regional Park which could allow park users to cross between the east and west sides of the park. Because this proposed regional park is already fragmented by Antonio Parkway, the AIO Alternative would not adversely fragment this proposed park.~~

The fragmentation impact on proposed Prima Deshecha Regional Park will also be adverse, although, because it is proposed and no information on potential amenities or facilities is available, it is not possible to assess this impact in detail. The design of the AIO Alternative does not include any structures proposed Prima Deshecha Regional Park which could allow park users to cross between the east and west sides of the park.

As shown on Table 4.25-30, no adverse noise impacts due to operation of the AIO Alternative will occur at any recreation resource in the study area.

The AIO Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-30.

Operation of the AIO Alternative will not result in substantial adverse long-term local air quality impacts, based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-30, the AIO Alternative will result in changes in views from the Las Flores Elementary School Sports Fields, Ladera Ranch Open Space, proposed Ladera Ranch Open Space, ~~proposed San Juan Creek Regional Park~~, San Juan Capistrano Open Space and Trails, proposed Prima Deshecha Regional Park, Pacific Golf Club, proposed Talega Community Park West, Vista Del Mar Elementary and Middle School Sports Fields and Talega Golf Course. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

I-5 Alternative

As shown in Table 4.25-31 and Figure 4.25-17, the I-5 Alternative will result in the permanent acquisition of land~~property~~ from 13 recreation resources. The permanent acquisition of land~~property~~ on SOSB Cristianitos Subunit 1 under this alternative is for an EDBs southeast of Cristianitos Road and east of I-5. As shown in Table 4.25-32, the use of land~~property~~ from these recreation resources will result in adverse effects on amenities at these resources. Based on the types of amenities removed by the permanent acquisition of land~~property~~ at these resources, the I-5 Alternative will result in an adverse impact on these resources.

As shown in Figure 4.25-17 and Table 4.25-31, the I-5 Alternative will not fragment any existing or proposed recreation resources.

The I-5 Alternative will not adversely affect access to and from recreation resources in the vicinity of the alignment as shown on Table 4.25-33.

As shown on Table 4.25-33, adverse noise impacts due to operation of the I-5 Alternative will occur at Aegean Park, Mission Viejo High School Sports Fields, Mission Viejo Golf Course, Capistrano Valley High School Sports Fields, Rancho Capistrano Recreation Fields, Serra Park, San Juan Elementary School Sports Fields, Buccheim Fields, Sunset Park, San Clemente High School Sports Fields, Ole Hanson Elementary School Sports Fields and Concordia Elementary School Sports Fields.

Operation of the I-5 Alternative will not result in substantial adverse long-term local air quality impacts, based on the findings of the Air Quality Technical Report.

As shown in Table 4.25-33, the I-5 Alternative will result in changes in views for the resources listed below. The change in the views from these resources is not adverse because the views from these resources will not be substantially changed or these resources are not considered to be sensitive to changes in the viewshed.

- Cavanaugh Gowdy Park
- Sycamore Park
- Aegean Park
- Linda Vista Elementary School Sports Fields
- Moulton Ranch Park
- Cabot Park
- Proposed Northwest Open Space
- La Tierra Elementary School
- Mission Viejo High School Sports Fields
- Mission Viejo Golf Course
- Granada Park
- Capistrano Valley High School Sports Fields
- Rancho Capistrano Recreation Fields (Schuller Ministries)

- Serra Park
- Marbella Golf and Country Club
- Buccheim Fields
- Descanso Veterans Park
- San Juan Hills Country Club
- proposed Via Canon Park
- Sunset Park
- Shorecliffs Golf Course
- Shorecliffs Middle School Sports Fields
- Ole Hanson Elementary School Sports Fields
- San Clemente Municipal Golf Course
- San Luis Rey Park
- SOSB Cristianitos Subunit 1
- SOSB Trestles Subunit 2
- San Juan Elementary School Sports Fields
- San Juan Capistrano Open Space and Trails
- San Gorgonio Park
- proposed Marblehead Sports Park
- San Clemente High School Sports Fields
- proposed Our Lady of Fatima Park
- San Clemente State Beach
- proposed South San Clemente Neighborhood Park (west)
- Creekside Park

No Action Alternative – OCP-2000

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any additional SOCTIIP improvements. Therefore, the No Action Alternative-OCP-2000 will not result in SOCTIIP related adverse long-term impacts to any recreation resources.

No Action Alternative – RMV

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any additional SOCTIIP improvements. Therefore, the No Action Alternative-RMV will not result in SOCTIIP related adverse long-term impacts to any recreation resources.

4.25.3.3 Summary of Impacts Related to Recreation Resources

The A7C-ALPV and CC-ALPV will result in the least number of impacts to recreation resources. The A7C-ALPV Alternative will directly impact the ~~proposed San Juan Creek Regional Park and the~~ proposed Prima Deshecha Regional Park. This Alternative will indirectly impact four existing recreation resources and ~~four~~ three proposed recreation resources.

The CC-ALPV Alternative will directly impact the San Juan Capistrano Open Space and Trails~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. This Alternative will indirectly impact three existing recreation resources and four proposed recreation resources.

The AIO Alternative will directly impact the San Juan Capistrano Open Space and Trails and the proposed San Juan Hills High School Sports Fields. The AIO Alternative will indirectly impact six existing recreation resources and five proposed recreation resources.

The FEC-W, FEC-M, and A7C-FEC-M/Preferred Alternative will result in similar direct and indirect impacts to recreation resources. These Alternatives will directly impact SOSB Cristianitos Subunit 1, and SOSB Trestles Subunit 2 ~~proposed San Juan Creek Regional Park~~. These Alternatives will indirectly impact nine existing and two proposed recreation resources. In addition, the FEC-W, and A7C-FEC-M/Preferred Alternative will indirectly impact one other proposed recreation resource.

The CC Alternative will directly impact the San Clemente State Beach, Ole Hanson Elementary School Sports Fields, San Clemente High School Sports Fields, SOSB Cristianitos Subunit 1, San Juan Capistrano Open Space and Trails~~, proposed San Juan Creek Regional Park~~ and proposed Prima Deshecha Regional Park. This Alternative will indirectly impact eleven existing recreation resources and seven proposed recreation resources.

The I-5 Alternative will result in the largest number of impacts to recreation resources. The I-5 Alternative will directly impact Cavanaugh Gowdy Park, Aegean Park, Mission Viejo High School Sports Fields, San Gorgonio Park, Ole Hanson Elementary School Sports Fields, San Clemente High School Sports Fields, SOSB Cristianitos Subunit 1, Buccheim Fields, Serra Park and proposed Northwest Open Space. The I-5 Alternative will indirectly impact forty-nine existing and five proposed recreation resources.

The No Action Alternatives do not assume any SOCTIIP related transportation improvements and therefore will not result in direct or indirect impacts to existing or proposed recreation resources.

Impacts related to recreation resources are summarized in Tables 4.25-10 to 4.25-33.

4.25.3.4 Summary of Impacts to the Recreational Experience at San Mateo Campground

San Mateo Campground. Depending on the location of the campsite, users of the San Mateo Campground may experience a change in their recreational camping experience. Those campsites closer to the proposed corridor could expect to have a noticeable difference in their visual surroundings and the effect of more vehicles traveling nearby than those campsites that are closer to San Mateo Creek and farther away from the proposed corridor and existing Cristianitos Road. Introduction of a four-lane corridor to an area that is currently occupied by a two-lane road (Cristianitos Road) and existing open spaces areas would have both visual and noise effects to the campground users.

Visually, campground users would experience a change in views surrounding the San Mateo Campground. The addition of a four-lane corridor along the length of SOSB Sub-unit 1 would result in an adverse visual effect. TCA will provide landscaping adjacent to the toll road facility and a soundwall would be constructed adjacent to the corridor facility that would serve to partially screen the roadway from the campground; however, the corridor cannot be completely screened. There would be a noticeable difference in the visual setting and experience.

Current noise levels at San Mateo Campground are approximately 47 dBA. Campground users are exposed to noise traffic from Cristianitos Road and I-5. A noise level of 65 dBA is generally considered the level where considerable speech interference begins. FHWA/Caltrans noise abatement criteria as it applies to parks states that noise levels are not a concern until they exceed 66 dBA. The peak-hour traffic noise level in the San Mateo Campground is projected to be 58 dBA $L_{eq}(h)$ with construction of a 4.9-meter (16-foot) high sound wall. However, average traffic noise levels will be considerably less than during the theoretical peak noise hour. During the daytime and evening, average noise levels at the campground are projected to be approximately 49 dBA with the proposed 4.9-meter (16-foot) high sound wall. During the nighttime, noise levels are projected to be approximately 44 dBA with the sound wall. These levels are 16 and 20 dB lower than the 65 dBA level, where considerable speech interference is

considered to begin. A 10 dB difference in noise levels is perceived as a doubling, or halving, of the noise level. Generally, during the evening and nighttime hours noise the difference in noise levels is imperceptable.

Access from San Mateo Campground to Trestles Beach would be maintained during and after construction. With the corridor, the trail would be reconfigured to run adjacent to the reconfigured Cristianitos Road similar to what exists now. The new trail would cross over the toll road, continue along Cristianitos Road, and reconnect to the existing trail(s) that currently runs adjacent to San Mateo Creek and under the I-5. Trail users may continue on Cristianitos Road, cross over I-5, and connect to the Old U.S. 101 Highway trail.

San Onofre State Beach Subunit 2/Trestles Beach. San Onofre State Beach Subunit 2, also known as Trestles Beach, is a popular surfing beach. In response to environmental document comments received on the project's potential impacts to the coastal surfing resources within San Onofre State Beach Subunit 2, TCA commissioned a sediment transport analysis to determine whether the proposed project would adversely affect the quality of the surf and the surfing experience at Trestles Beach. The sediment transport analysis was prepared and is included as Attachment 8, Sediment Transport Study, in the Response to Comments document.

Sediment budgets for this watershed were evaluated for impacts to sediment flow to the near-shore waters and beaches. A sediment budget is a tool used to determine the impact of environmental changes on the shoreline. Sediment budgets prepared for San Mateo Creek were also reviewed. The Runoff Management Plan (RMP) for SOCTIIP was developed to specifically address water quality from storm water runoff. The RMP (Sections 3 and 4) provides discussion on PDFs, including the BMPs that are incorporated in the project to address water quality. It was determined that the sediment input from river sources with the Preferred Alternative will modify the sediment transport by 2 percent. Thus, the small volume of river sediment affected by the Preferred Alternative is not significant. The analysis concluded that the supply of sediment from San Mateo Creek will be virtually unchanged in the after-project condition with anticipated storm water. Foothill-South will bridge over the creek, allowing water to flow naturally as it does today with the existing I-5 freeway and railroad facilities. No channel improvements or lining will be made to the creek that will alter the quality, function, or sediment flow of the creek. The sediment budget analysis concludes that the supply of bed material load from San Mateo Creek will be virtually unchanged in the after-project condition with the anticipated storm water controls.

The sediment transport analysis was also reviewed by the project coastal engineering consultant, Dave Skelly. Mr. Skelly's review is provided as Attachment 11 of the Response to Comments document. The report reviewed the historical shoreline changes at the mouth of San Mateo Creek and demonstrated that the large cobble and small boulder delta that generate the surf spot are robust features that are not particularly sensitive to changes in beach sands or shoreline position. Based on analysis of the hydraulics and runoff analysis of the management plan, the study concluded that the project will not have a measurable impact on the natural delivery of sediment, therefore not impacting the surfing resources.

The report concludes that the surfing resources in the vicinity of San Mateo Creek are not sensitive to very small changes in sediments delivered either alongshore or from the Creek. The Preferred Alternative will have an insignificant impact on the transport of sediment to the shoreline and thus no effect on the surf breaks. The Preferred Alternative will have no measurable impact on surfing resources and will not change the quality of the surf at Trestles Beach.

4.25.4 MITIGATION MEASURES RELATED TO RECREATION RESOURCES

Mitigation measures were provided in the Mitigation Monitoring Program (MMP) for Final Environmental Impact Report No. 3 (EIR No. 3) for the Foothill Transportation Corridor – Oso Parkway to Interstate 5, to minimize the impacts to recreation resources identified for the alignments analyzed in that EIR. All the mitigation measures in the MMP for EIR No. 3 were reviewed and have been incorporated, as applicable, in the mitigation measures for the SOCTIIP alternatives. Table 4.25-34 lists the mitigation measures from the MMP in EIR No. 3 and provides the proposed status for each measure. If the measure has been incorporated into a SOCTIIP mitigation measure, the new mitigation measure number is provided. If a measure is proposed to be deleted, the reason for deleting the measure is provided.

The following mitigation measures were developed to avoid or minimize as much as possible the impacts of the SOCTIIP build Alternatives related to recreation resources.

The TCA or other agencies implementing a SOCTIIP Alternative (because the TCA will not be the implementing agency for the non-corridor alternatives) will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all land~~property~~ within the right-of-way necessary for the proposed project. The provisions of this Act, as well as mitigation measures related to temporary use and permanent acquisition of land~~property~~, are addressed in detail in Section 4.4 (Affected Environment, Impacts and Mitigation Related to Socioeconomics and Environmental Justice).

In addition, Sections 4.6 (Affected Environment, Impacts and Mitigation Related to Noise) and 4.18 (Affected Environment, Impacts and Mitigation Related to Aesthetics) include mitigation to address noise and visual impacts along the alignments of the build Alternatives. Those mitigation measures would mitigate adverse impacts of the build Alternatives related to noise and visual impacts. As described in the Section 4.6, short-term noise impacts may not be fully mitigated to within the applicable local jurisdictions' noise standards for construction. However, long-term noise impacts associated with operation of the build Alternatives are anticipated to be mitigated to within the applicable federal and local standards. As documented in the Section 4.18, not all the adverse visual impacts associated with the build Alternatives, including impacts on recreation resources, can be fully mitigated. Mitigation measures in Sections 4.6 and 4.18 would substantially mitigate potential adverse noise and visual impacts on recreation resources. Additionally, short-term air quality mitigation measures as noted in Section 4.7 will mitigate the air quality construction impacts; however, those impacts will likely remain adverse even with the application of the mitigation measures.

Measure R-1: Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this land~~property~~ cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources land~~property~~ will apply to the build Alternatives consistent with Uniform Relocation Assistance.

Measure R-2: Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA or implementing agency/agencies will consult with the affected land~~property~~ owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to:

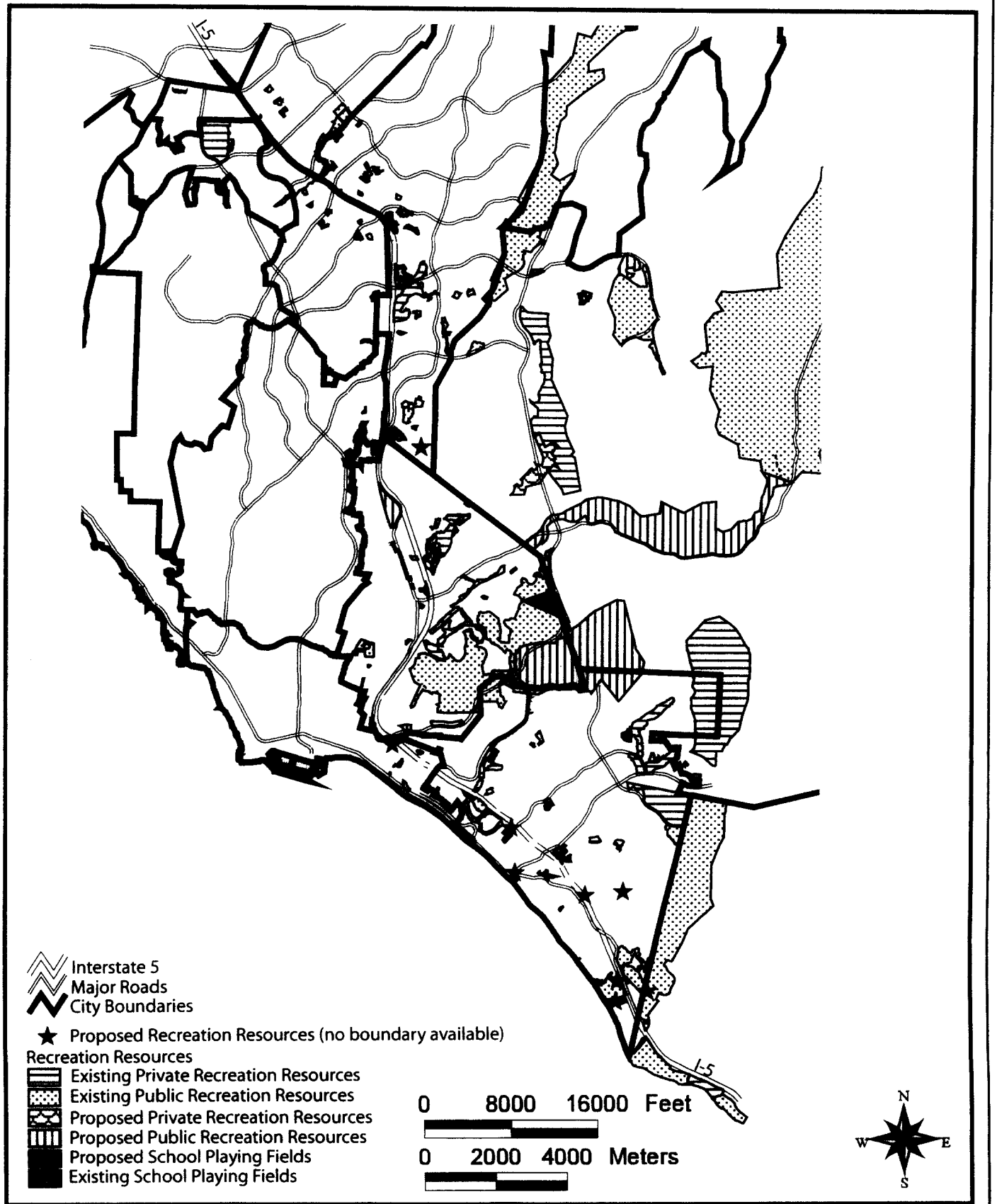
- Identify and implement opportunities to protect recreation resources in place.
- Identify and implement opportunities to replace lost recreation facilities within the existing recreation land~~property~~.
- Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.

Measure R-3: Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

Measure R-4: Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.

Measure R-5: Impacts on Trails. During final design, the TCA or implementing agency/agencies will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local ~~jurisdictions~~agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

Tables 4.25-35 to 4.25-38 list the project Alternatives, the resources along the Alternatives and which mitigation measures apply to potential impacts on those resources under each Alternative.



Source: P&D Consultants, 2003.

Generalized Study Area for Recreation Resources

Table 4.25-1
Recreation Resources in the City of San Clemente

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
San Clemente State Beach 3030 Avenida Del Presidente	California State Parks	An approximately 38 hectare (ha) (94 acre (ac)) regional park in south San Clemente, southwest of Interstate 5 (I-5), immediately south of Avenida Calafia. Includes a beach, day and overnight camping (tent and recreational vehicle (RV)), showers, picnic areas, parking, and pedestrian and bicycle trails to the beach.
San Clemente Municipal Golf Course 150 East Magdalena	City of San Clemente	A special use facility of approximately 51 ha (126 ac) in south San Clemente, northeast of I-5, immediately north of Avenida San Luis Rey. Includes 18 holes, a clubhouse, parking and a practice range. Open to the public.
Verde Park 301 Calle Esquela	City of San Clemente	A neighborhood park of approximately 1.1 ha (2.7 ac) southeast of the I-5/Avenida Pico interchange directly adjacent to Calle Esquela. Includes tennis courts, playground equipment, parking and a path to San Clemente High School and Ole Hanson Elementary School.
San Gorgonio Park 2916 Via San Gorgonio	City of San Clemente	A community park of approximately 9.7 ha (24 ac) immediately south of Calle Vaquero, immediately adjacent to I-5. Includes tennis courts, a soccer field, baseball fields, basketball courts, playground equipment and parking.
Ole Hanson Elementary Sports Fields School 189 Avenida La Cuesta	Capistrano Unified School District	Approximately 2.1 ha (5.1 ac) of sports and baseball fields and basketball courts south of the I-5/Avenida Pico interchange. Used for school activities and for public Little League and other organized sports.
San Clemente High School Sports Fields 700 Avenida Pico	Capistrano Unified School District	Approximately 9.7 ha (24 ac) of sports fields on the southwest part of the overall school site, southeast of the I-5/Avenida Pico interchange. Used for school activities and for public Little League and other organized sports. Includes a track, football/soccer fields and baseball fields.
San Luis Rey Park 109 Avenue San Luis Rey	City of San Clemente	A community park of approximately 1.1 ha (2.7 ac) in south San Clemente, northeast of I-5, immediately north of Avenida San Luis Rey. Includes playground equipment, tennis courts, lawn bowling area, picnic facilities, restrooms and parking.

Table 4.25-1 (continued)
Recreation Resources in the City of San Clemente

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES (CONTINUED		
Vista Bahia Stadium Park 402 Calle Bahia	City of San Clemente	A special use facility of approximately 2.4 ha (6.0 ac) in south San Clemente, north of I-5, immediately adjacent to Calle Bahia and San Clemente Municipal Golf Course. Includes a Little League playing field, batting/pitching cage, concessions, trap and skeet range, restrooms and parking.
Calafia Beach 240 Avenida Calafia	City of San Clemente	A neighborhood park of approximately 3.3 ha (8.1 ac) northwest of San Clemente State Beach, west of the intersection of Avenida Calafia and Avenida Presidente. Includes a concession stand, showers, restrooms, parking and a beach.
Bonito Canyon Park 1304 Calle Valley	City of San Clemente	A community park of approximately 3.5 ha (8.7 ac) directly north of the intersection of El Camino Real and Calle Aragon, directly adjacent to Calle Valle. Includes a Boys and Girls Club center, tennis courts, baseball fields, basketball courts, playground equipment and parking.
Rancho San Clemente Tennis Club 111 Avenida Vista Montana	Lloyd Harline	A privately owned community facility of approximately 4.1 ha (10 ac) directly south of the intersection of Avenida Vista Montana and Calle Del Cerro. Includes tennis courts and parking. Not open to the public.
Pacific Golf Club 200 Avenida La Pata	Mr. Okuda/Frank Adlesh	A privately owned special use facility of approximately 100 ha (246 ac) southeast of the Avenida Pico/Avenida La Pata intersection. Includes 27 holes, clubhouse facilities and parking. Not open to the public.
Talega Golf Course 990 Avenida Talega	Heritage Golf Group	A privately owned special use facility of approximately 63 ha (156 ac) northeast of the Avenida Pico/Avenida La Pata intersection. Includes 18 holes, clubhouse and parking. Open to the public.
Park at Calle Juarez and Calle Guadalajara Corner of Calle Juarez and Calle Guadalajara	Coast Homeowners Association/Tom Webb & Associates Property Management	A privately owned neighborhood facility of approximately 2.4 ha (6.0 ac) north of I-5, directly east of the intersection of Calle Juarez and Calle Guadalajara. Includes a bench and trails to the surrounding residential areas.
Shorecliffs Golf Course 501 Avenida Vaquero	Fon Leong	A privately owned special use facility approximately 45 ha (112 ac) directly north and southwest of I-5, directly adjacent to Calle Vaquero. Includes 18 holes, a clubhouse, a proshop and parking. Open to the public.
Mira Costa Park 34001 Camino Mira Costa	City of San Clemente	A neighborhood park of approximately 1.5 ha (3.7 ac) southeast of the intersection of Camino Mira Costa and Camino Estrella. Includes playground equipment and a picnic area.
Concordia Elementary School Sports Fields 3120 Avenida del Presidente	Capistrano Unified School District	Approximately 1.5 ha (3.6 ac) of sports and baseball fields south of the intersection of Avenida Calafia and I-5, adjacent to Avenida Del Presidente. Used for school activities and for public Little League and other organized sports.

Table 4.25-1 (continued)
Recreation Resources in the City of San Clemente

Name and Address	Owner/Operator	Description
Shorecliffs Middle School Sports Fields 240 Via Socorro	Capistrano Unified School District	Approximately 5.3 ha (13 ac) of sports fields southwest of the I-5, immediately southeast of Via Soccoro. Used for school activities and public organized sports. Facilities include a track, a soccer field/football field, baseball fields and basketball courts.
Talega Swim and Athletic Club Northeast of the intersection of Calle Altea and Camino Pedriza	Talega Homeowners Association	A community/special use park of approximately 2.9 ha (7.1 ac) proposed immediately east of the intersection of Avenida La Pata and Avenida Vista Hermosa. Includes a clubhouse, resort-style pool, water play fountains, tennis courts, basketball courts, roller sports rink, sand volleyball courts, sun bathing terrace and picnic areas.
Talega Community Park Southeast of the intersection of Calle Pacifica and Camino La Pedriza	City of San Clemente	A community park of approximately 0.16 ha (0.39 ac) proposed north of Avenida Pico, northeast of the intersection of Avenida Pico and Avenida Vista Hermosa. Includes playground equipment and a picnic area.
Vista Del Mar Elementary and Middle School Sports Fields 1130 Avenida Talega	Capistrano Unified School District	Approximately 6.4 ha (15.7 ac) of sports fields immediately northwest of the intersection of Calle Portofino and Avenida Talega. Used for school activities, Little League baseball and other organized sports.
PROPOSED RECREATION RESOURCES		
Proposed South San Clemente Neighborhood Park (east/west) In San Onofre State Park Cristianitos subunit and near the southernmost end of San Clemente Golf Course, or in the northeast section of San Clemente State Beach adjacent to the existing State Parks office. The location of this proposed park has not been decided to date.	The proposed resource is not in public ownership at this time.	A proposed neighborhood 2.0 ha (5.0 ac) park. Two locations under consideration: (1) immediately west of Avenida del Presidente, south of Avenida Calafia in south San Clemente or east of I-5 or (2) north of the I-5/Cristianitos interchange in San Onofre State Beach Cristianitos subunit. Proposed facilities include parking, beach access, restrooms, basketball courts, a skate court, tennis courts, volleyball courts, playground equipment, pedestrian and bicycle trail and a picnic area.
Proposed Vista Bahia Trap and Skeet Relocation Undeveloped part of the future expansion of Avenida La Pata north of the intersection with Avenida Vista Hermosa. The location of this proposed park has not been decided to date.	The proposed resource is not in public ownership at this time.	Proposed special use facility of unknown acreage. Two locations are under consideration: (1) northeast of I-5 immediately east of the Donna O'Neill Land Conservancy or (2) north of the existing terminus of Avenida La Pata, west of the terminus of Avenida de los Mares. Proposed facilities include parking, restrooms, a picnic area, a pedestrian/bicycle trail, and a trap and skeet range.

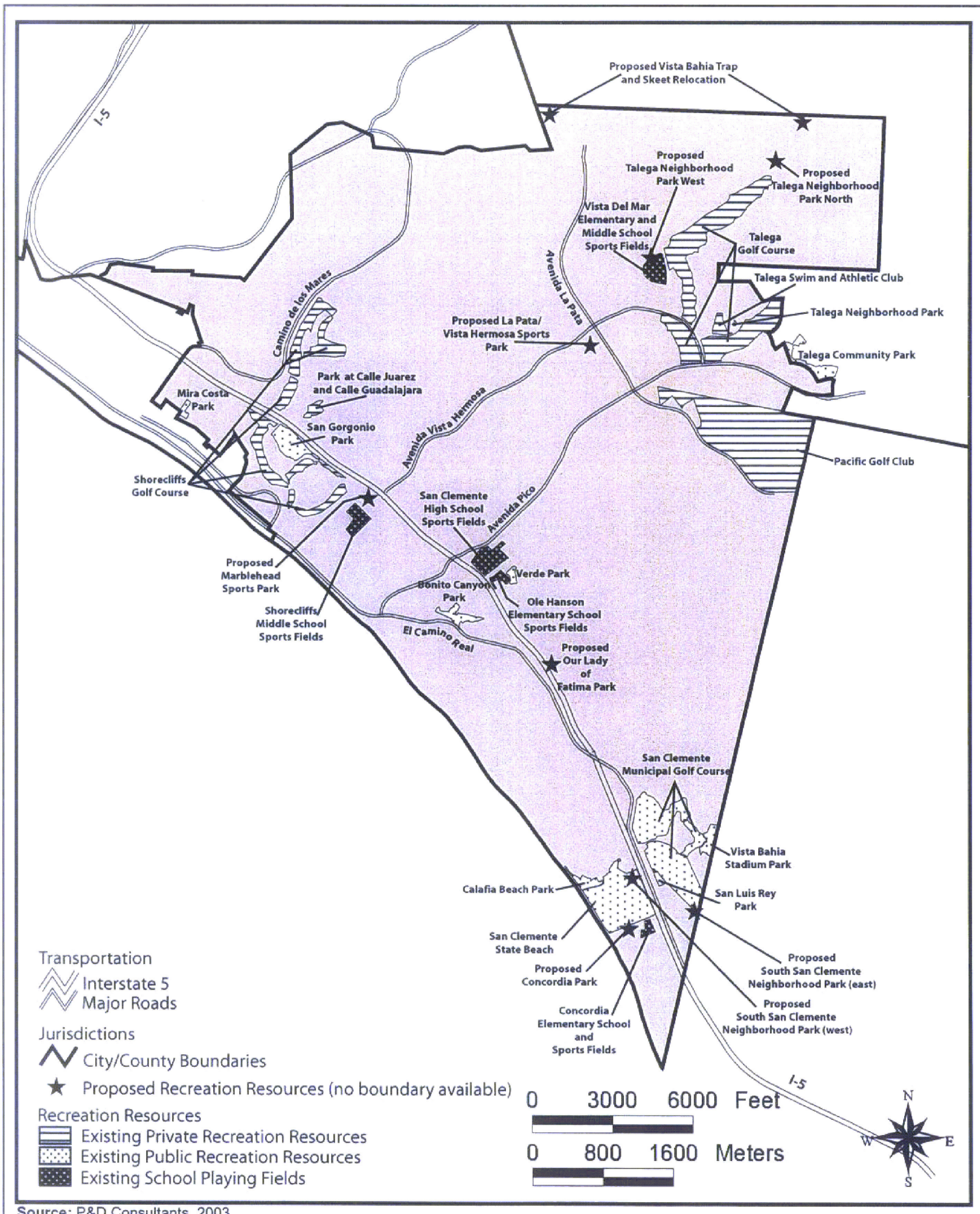
Table 4.25-1 (continued)
Recreation Resources in the City of San Clemente

Name and Address	Owner/Operator	Description
Proposed Marblehead Sports Park adjacent to Shorecliffs Middle School.	The proposed resource is not in public ownership at this time.	A community park of approximately 2.8 ha (7.0 ac) proposed immediately southwest of I-5, north of Avenida Pico, immediately east of Shorecliffs Middle School. Proposed to include a multipurpose/soccer field, an in-line hockey court, an exercise track, a concessions stand, playground equipment, a picnic area, a pedestrian/bicycle trail and parking.
Proposed La Pata / Vista Hermosa Sports Park Corner of Avenida La Pata and Avenida Vista Hermosa, along the south side of Avenida Vista Hermosa.	The proposed resource is not in public ownership at this time.	A community/special use park of approximately 4.0 to 6.1 ha (10 to 15 ac) proposed immediately southwest of the intersection of Avenida La Pata and Avenida Vista Hermosa. Proposed to include a community building, parking, restrooms, baseball fields, a soccer/multipurpose field, basketball courts, and in-line hockey court, a skateboard course, tennis courts, sand volleyball courts, playground equipment, a concessions building, a picnic area and a pedestrian/bicycle trail.
Proposed Talega Neighborhood Park North along Avenida Talega about 0.96 km (0.6 mile) north of Talega Golf Course.	The proposed resource is not in public ownership at this time.	A neighborhood park of approximately 3.2 ha (8.0 ac) proposed east of Avenida La Pata, west of Cristianitos Road, north of Avenida Pico. Proposed to include restrooms, basketball courts, tennis courts, inline hockey court, sand volleyball court, an exercise course, playground equipment and a picnic area.
Proposed Equestrian Center in Talega Planned Community	In private ownership.	A special use facility of unknown size north of Avenida Pico, east of Avenida La Pata, west of Cristianitos Road, immediately adjacent to the Donna O'Neill Land Conservancy. Proposed to include parking, restrooms, a picnic area, and a pedestrian/bicycle/equestrian trail.
Proposed Concordia Park East of Concordia school and adjacent to the existing Concordia school site.	The proposed resource is not in public ownership at this time but is planned for public park uses.	A neighborhood park of approximately 2.0 ha (5.0 ac) proposed southeast of Avenida Calafia, west of Avenida del Presidente, immediately southeast of San Clemente State Beach. Proposed to include parking, baseball fields, a soccer/multipurpose field, basketball courts, playground equipment, a picnic area and an amphitheater or stage.
Proposed Talega Neighborhood Park southeast of the intersection of Calle Pacifica and Camino La Pedriza.	City of San Clemente	A neighborhood park of approximately 0.16 ha (0.39 ac) proposed north of Avenida Pico, northeast of the intersection of Avenida Pico and Avenida Vista Hermosa. Includes playground equipment and a picnic area.

Table 4.25-1 (continued)
Recreation Resources in the City of San Clemente

Name and Address	Owner/Operator	Description
Proposed Talega Neighborhood Park West South of the proposed Regional Park at the Prima Deshecha Sanitary Landfill and north of the intersection of Avenida Talega and Calle Portifino.	The proposed resource is not in public ownership at this time but is planned for public park uses.	A neighborhood park of approximately 3.2 ha (8.0 ac) proposed north of the intersection of Avenida Pico and Avenida Vista Hermosa, east of Avenida La Pata. Proposed to include restrooms, basketball courts, an in-line hockey court, tennis courts, an exercise course, playground equipment, a picnic area and a pedestrian/bicycle trail.
Proposed Our Lady of Fatima Park Along North La Esperanza.	The proposed resource is not in public ownership at this time.	A neighborhood park of approximately 0.8 ha (2.0 ac) proposed north of the intersection of North La Esperanza and Avenida Presidio, east of I-5. Proposed to include an exercise course, playground equipment and a picnic area.

Source: P&D Consultants (2003).
Note: Refer to Figure 4.25-2 for the locations of these recreation resources.



Source: P&D Consultants, 2003.

Existing and Planned Recreation Resources in the SOCTIIP Study Area in the City of San Clemente

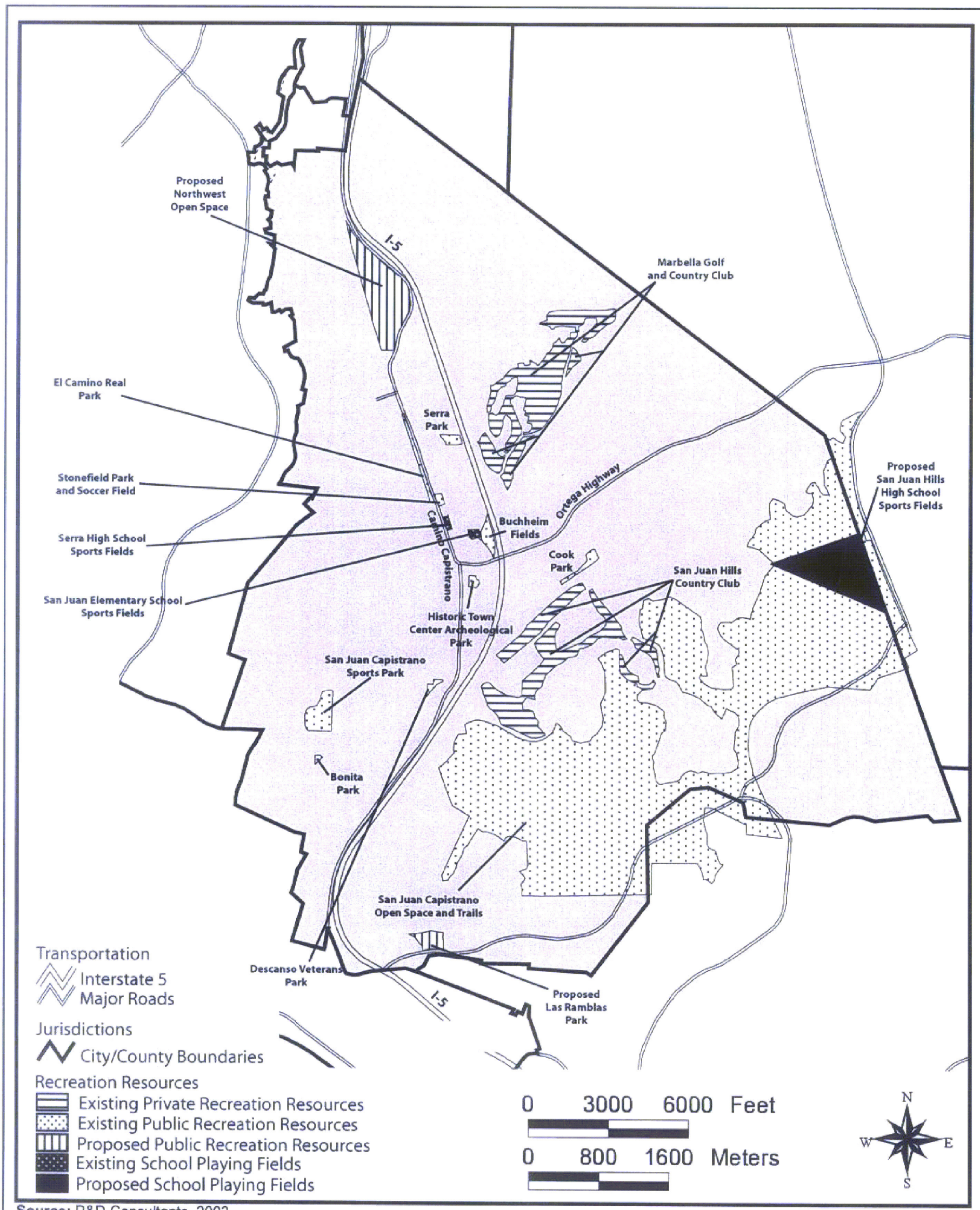
Table 4.25-2
Recreation Resources in the City of San Juan Capistrano

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
San Juan Capistrano Open Space and Trails North of Camino Las Ramblas, south of San Juan Creek Road, east of the I-5 and west of Prima Deshecha Sanitary Landfill.	City of San Juan Capistrano	A special use facility of approximately 670 ha (1,655 ac) and 11.9 km (7.4 mi) of trails east of I-5, west of Avenida La Pata, north of Camino Las Ramblas, south of La Novia Avenue. Includes open space, trails and parking.
Descanso Veterans Park 32506 Paseo Adelanto	City of San Juan Capistrano	A mini park of approximately 0.9 ha (2.1 ac) west of I-5, south of Del Obispo Street. Includes playground equipment, a picnic area and a corral.
Buccheim Fields North of Spring Street and east of Camino Real.	City of San Juan Capistrano	A special use facility of approximately 2.8 ha (6.8 ac) immediately west of I-5, east of Camino Capistrano, north of Ortega Highway. Includes baseball fields, a concessions stand and parking.
Serra Park At the intersection of Calle Bonita and Calle Santa Rosalia.	City of San Juan Capistrano	A neighborhood park of approximately 1.6 ha (3.9 ac) immediately west of I-5, east of Camino Capistrano, south of Junipero Serra Road, immediately east of Calle Santa Rosalia. Includes playground equipment and a picnic area.
San Juan Elementary School Sports Fields 31642 El Camino Real	Capistrano Unified School District	Approximately 1.1 ha (2.6 ac) of sports fields east of Camino Capistrano, west of I-5, north of Ortega Highway, immediately northeast of the corner of El Camino Real and Spring Street. Used for public Little League and other organized sports. Facilities include a baseball field and a soccer/football field.
San Juan Hills Country Club 32120 San Juan Creek Road	Pacific Golf Enterprises	A privately owned special use facility of approximately 51 ha (126 ac) east of I-5, immediately southeast and northwest of San Juan Creek Road. Includes 18 holes, a clubhouse, a driving range and parking. Not open to the public.
Bonita Canyon Park West side of Via Del Rey, across from Via Lorado.	City of San Juan Capistrano	A mini park of approximately 0.4 ha (1.0 ac) south of Camino Del Avion, west of Del Obispo Street, immediately northeast of Via Del Rey. Includes playground equipment.
Historic Town Center Archaeological Park Along El Camino Real on the south side of Ortega Highway.	City of San Juan Capistrano	A neighborhood park of approximately 1.0 ha (2.3 ac) southeast of the intersection of Camino Capistrano and Ortega Highway, west of I-5. Includes a picnic area and multipurpose field.

Table 4.25-2 (continued)
Recreation Resources in the City of San Juan Capistrano

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES (CONTINUED)		
Stone Field Park with Soccer Field Corner of La Zanja and Camino Capistrano.	City of San Juan Capistrano	A special use facility of approximately 0.8 ha (1.9 ac) immediately southeast of the intersection of La Zanja Street and Camino Capistrano. Includes a soccer field.
Marbella Golf and Country Club 30800 Golf Club Drive	American Golf	A privately owned special use facility of approximately 59 ha (145 ac) east of I-5, southeast of the intersection of Junipero Serra Road and Ranch Viejo Road, north of the intersection of Ranch Viejo Road and Ortega Highway. Includes 18 holes, a driving range, a practice putting green, a chipping area, a practice bunker, a clubhouse, tennis courts, workout facilities and a pool. Not open to the public.
Serra High School Sports Fields 31431 El Camino Real	Capistrano Unified School District	This High School borrows the City's sports fields at Stone Field Park approximately 1.5 ha (3.7 ac) immediately southeast of the intersection of La Zanja Street and Camino Capistrano. Includes a soccer field and basketball courts.
El Camino Real Park On Camino Capistrano between La Zanja and Calle Chueca	City of San Juan Capistrano	A community park on Camino Capistrano between La Zanja and Calle Chueca. Includes benches, picnic area, pathways and restrooms.
PROPOSED RECREATION RESOURCES		
Proposed Northwest Open Space Between Camino Capistrano and the railroad, north of Junipero Serra Road.	City of San Juan Capistrano	A special use facility of approximately 30 ha (75 ac) proposed immediately west of Camino Capistrano and east of the railroad tracks in north San Juan Capistrano. Proposed to include picnic areas, a historical area, a nature center, playground equipment and pedestrian/bicycle trails.
Proposed Las Ramblas Park North side of Camino Las Ramblas between Via California and Via De Agua.	The proposed resource is not in public ownership at this time.	A community park approximately 4.0 ha (9.9 ac) proposed immediately north of Camino Las Ramblas, east of I-5. Proposed to include a soccer field, baseball fields and parking.
Proposed San Juan Hills High School Sports Fields	Capistrano Unified School District	Proposed sports fields located on a 20.2 ha (50.0 ac) campus off La Pata Avenue. Will be used for school activities and organized sports.

Source: P&D Consultants (2003).
Note: Refer to Figure 4.25-3 for the locations of these recreation resources.



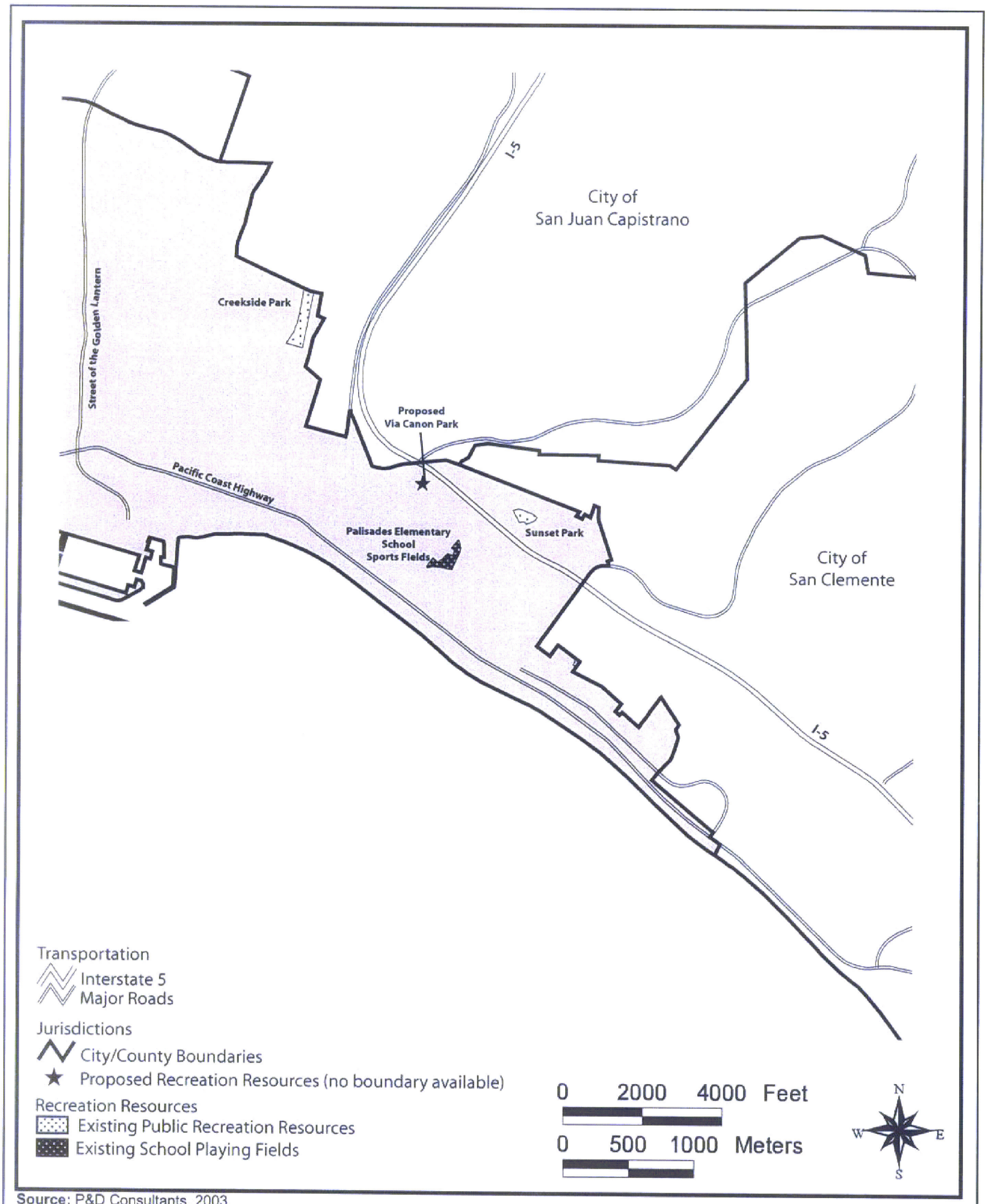
Source: P&D Consultants, 2003.

Existing and Planned Recreation Resources in the SOCTIIP Study Area in the City of San Juan Capistrano

Table 4.25-3
Recreation Resources in the City of Dana Point

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
Sunset Park Corner of Calle Naranja and Calle Portola	City of Dana Point	A neighborhood park of approximately 1.2 ha (3.0 ac) north of I-5, immediately east of the intersection of Calle Naranja and Calle Portola. Includes playground equipment, restrooms and picnic facilities.
Palisades Elementary School Sports Fields 26462 Via Sacramento	Capistrano Unified School District	Approximately 2.2 ha (5.4 ac) of sports fields south of the I-5/Pacific Coast Highway interchange in Dana Point, immediately east of the intersection of Via Sacramento and Avenida Las Palmas. Used for school activities and for public Little League and other organized sports. Facilities include baseball fields.
Creekside Park 25743 Stonehill Drive	City of Dana Point	A neighborhood park west of I-5 on Stonehill Drive. Includes picnic area, sand volleyball court, large playground, half basketball court, climbing wall, pathway, drinking fountains, portable restroom facilities and San Juan Creek Trail access.
PROPOSED RECREATION RESOURCE		
Proposed Via Canon Park Between Via Canon and Pacific Coast Highway where Via Canon separates from Camino Capistrano.	The proposed resource is not in public ownership at this time but is planned for public park uses.	A park of unknown size and unknown facilities proposed west of I-5, south of Pacific Coast Highway.

Source: P&D Consultants (2003).
Note: Refer to Figure 4.25-4 for the locations of these recreation resources.



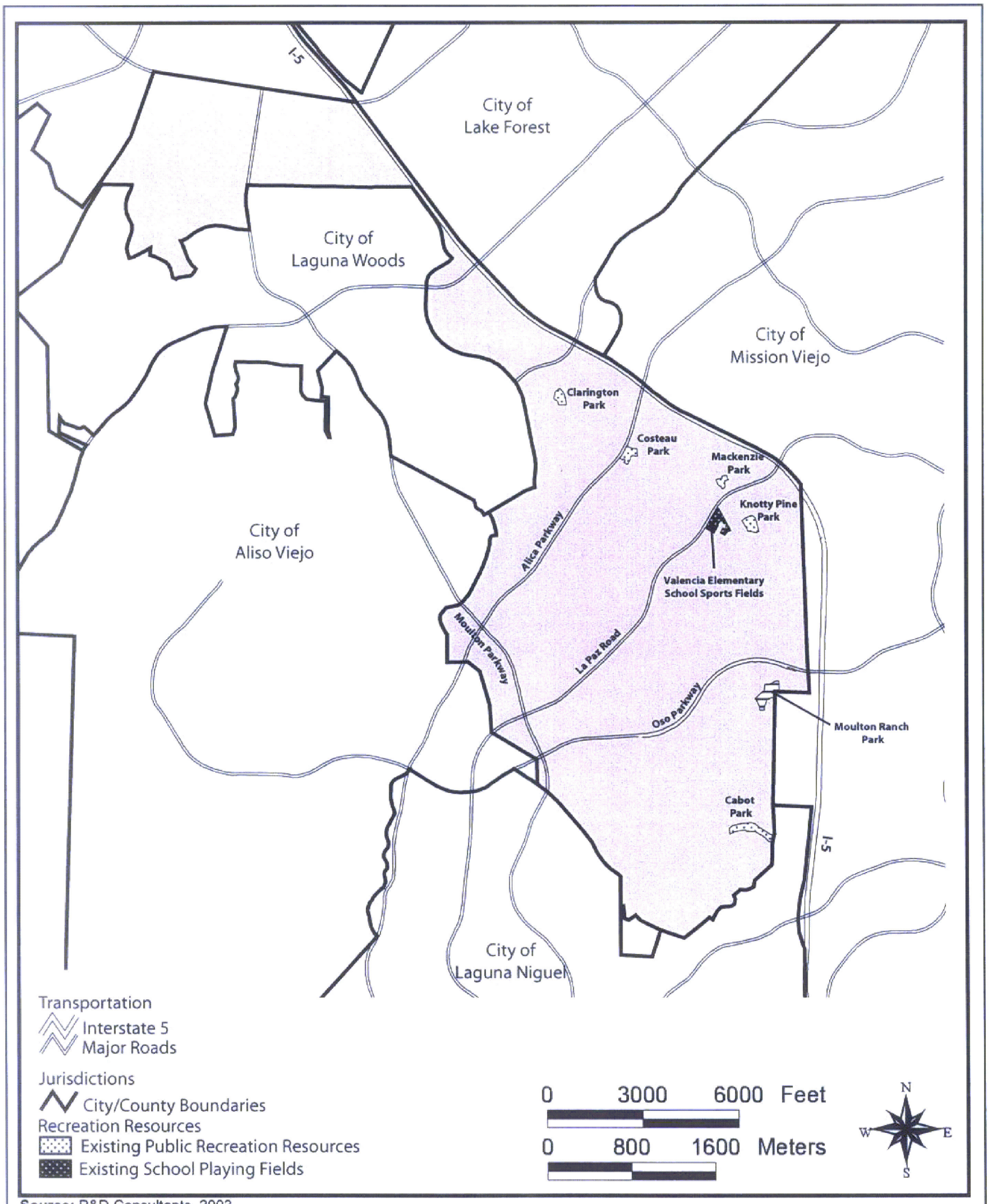
Source: P&D Consultants, 2003.

Existing and Planned Recreation Resources in the SOCTIIP Study Area in the City of Dana Point

Table 4.25-4
Recreation Resources in the City of Laguna Hills

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
Moulton Ranch Park Corner of Meadow Crest and Bridlewood.	Moulton Ranch III and Bella Vista Homeowners Association	A privately owned special use facility of approximately 3.1 ha (7.6 ac) west of I-5, south of Oso Parkway, immediately east of Bridlewood Drive. Includes playground equipment, a picnic area and a gazebo/barbeque (BBQ) area. Not open to the public.
Mackenzie Park Corner of Pike and MacKenzie.	City of Laguna Hills	A neighborhood park of approximately 1.2 ha (2.9 ac) southwest of I-5, northwest of La Paz Road, immediately northeast of the intersection of Pike Road and Mackenzie Street. Includes tennis courts and a grassy area.
Cabot Park Cabot Park before Rapid Falls along Cabot Road.	City of Laguna Hills	A community park of approximately 2.8 ha (7.0 ac) west of I-5, south of Rapid Falls Road, immediately southwest of the intersection of Rapid Falls Road and Cabot Road in south Laguna Hills. Includes baseball fields, playground equipment, restrooms and parking.
Costeau Park	City of Laguna Hills	A community park located two streets west of I-5 off Alicia Parkway and Costeau. Includes playground equipment, benches, sidewalk, lawn area, BBQ area, picnic area, volleyball court, basketball court, four square court, hop scotch, drinking fountains, bike path and a statue.
Clarrington Park	City of Laguna Hills	A neighborhood park off Alicia Parkway. Includes playground equipment, picnic area and benches.
Knotty Pine Park Near McIntyre and Knotty Pine.	City of Laguna Hills	A neighborhood park located off La Paz and I-5. Includes playground equipment, sand volleyball court, pathway, picnic area, drinking fountain, bike rack, lawn area and benches.

Source: P&D Consultants (2003).
Notes:
1. Refer to Figure 4.25-5 for the locations of these recreation resources.
2. There are no proposed recreation resources in the SOCTIIP study area in the City of Laguna Hills.



Source: P&D Consultants, 2003.

Existing Recreation Resources in the SOCTIIP Study Area in the City of Laguna Hills

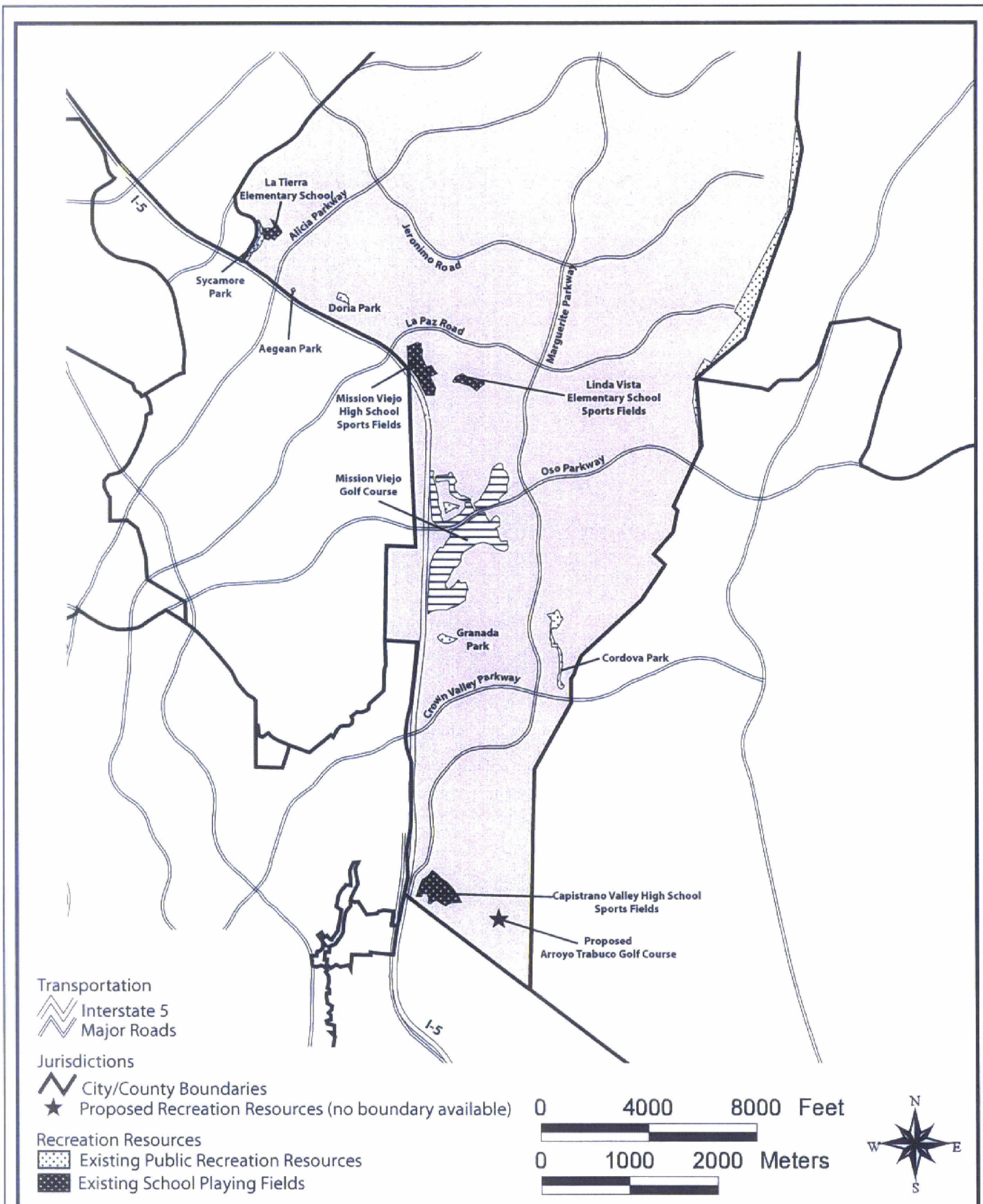
Table 4.25-5
Recreation Resources in the City of Mission Viejo

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
Granada Park Corner of Via Grande and Puerta Real.	City of Mission Viejo	A neighborhood park of approximately 1.3 ha (3.3 ac) east of I-5, northwest of the intersection of Crown Valley Parkway and Marguerite Parkway, immediately north of the intersection of Via Grande and Puerta Real. Includes playground equipment and a picnic area.
Sycamore Park Terminus of Charlinda.	City of Mission Viejo	A neighborhood park of approximately 3.0 ha (7.4 ac) north of I-5, east of the intersection of Muirlands Boulevard and Alicia Parkway. Includes playground equipment, a picnic area and a pedestrian trail.
Aegean Park Terminus of Saturna along Maximus.	City of Mission Viejo	A mini park of approximately 0.2 ha (0.4 ac) north of the I-5, immediately east of the Alicia Parkway/I-5 interchange. Includes playground equipment.
Mission Viejo High School Sports Fields 25025 Chrisanta Drive	Saddleback Valley Unified School District	Approximately 10 ha (25 ac) of sports fields immediately east of the I-5/La Paz interchange. Used for public Little League and other organized sports. Includes baseball fields, a football/soccer field, racquetball courts, tennis courts and a pool.
Capistrano Valley High School 26301 Via Escolar	Capistrano Unified School District	Approximately 11 ha (26 ac) of sports fields immediately east of Marguerite Parkway, immediately north of Via Escolar, south of Avery Parkway. Used for public organized sports. Includes tennis courts, baseball fields, soccer/football field and pools.
Madrid Fore Park Corner of Ocean and Marino	City of Mission Viejo	A neighborhood park of approximately 1.2 ha (2.9 ac) northeast of the I-5/Oso Parkway interchange, immediately east of Via Oceano. This park includes playground equipment and a picnic area.
Doria Park Corner of Doria and Aurora	City of Mission Viejo	A neighborhood park approximately 1.0 ha (2.4 ac) north of I-5, northeast of the La Paz Road/I-5 interchange. Includes a basketball court, playground equipment and a picnic area.
Mission Viejo Golf Course 26200 Country Club Drive	Member owned	A privately owned special use facility of approximately 63 ha (156 ac) immediately east of the I-5/Oso Parkway interchange. Includes 18 holes and clubhouse facilities. Not open to the public.
Linda Vista Elementary School Sports Fields 25222 Pericia Drive Mission Viejo, CA.	Saddleback Valley Unified School District	Approximately 3.0 ha (7.3 ac) of sports fields east of the I-5/La Paz interchange. Used for public Little League and other organized sports. Includes baseball fields and a football/soccer field.

Table 4.25-5 (continued)
Recreation Resources in the City of Mission Viejo

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
La Tierra Elementary School Sports Fields 24150 Lindley	Saddleback Valley Unified School District	Approximately 2.6 ha (6.5 ac) south of the intersection of Los Alisos Boulevard and Muirlands Boulevard, west of the intersection of Alicia Parkway and Muirlands Boulevard. Used for public Little League and other organized sports. Includes a soccer/football field and baseball fields.
La Paz Middle School Sports Fields 25151 Pradera Drive	Saddleback Valley Unified School District	Located east of I-5 off La Paz Road and Pradera Drive. Used for public Little League and other organized sports. Includes a track, football/soccer field, tennis courts, basketball courts and a snack shop.

Source: P&D Consultants (2003).
Notes:
1. Refer to Figure 4.25-6 for the locations of these resources.
2. There are no proposed recreation resources in the SOCTIIP study area in the City of Mission Viejo.



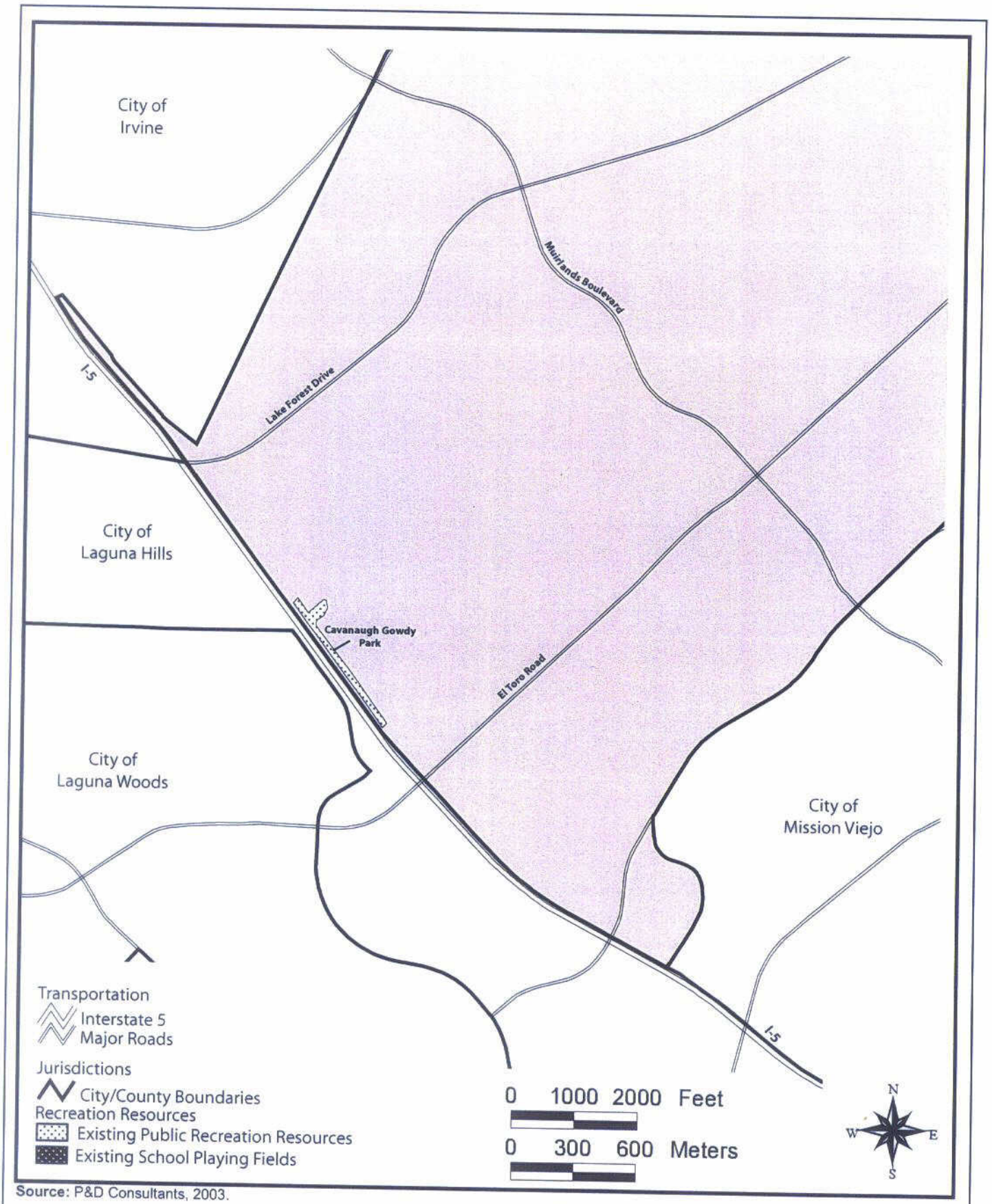
Source: P&D Consultants, 2003.

Existing and Planned Recreation Resources in the SOCTIIP Study Area in the City of Mission Viejo

Table 4.25-6
Recreation Resources in the City of Lake Forest

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCE		
Cavanaugh Gowdy Park Intersection of Ridge Route Drive and Gowdy Avenue.	City of Lake Forest	A mini park approximately 2.7 ha (6.7 ac) southeast of the Lake Forest/I-5 interchange, south of the intersection of Ridge Route Drive and Rockfield Boulevard. Includes playground equipment and a basketball half-court.

Source: P&D Consultants (2003).
Notes:
1. Refer to Figure 4.25-7 for the location of this recreation resource.
2. There are no proposed recreation resources in the SOCTIIP study area in the City of Lake Forest.



Source: P&D Consultants, 2003.

Existing Recreation Resources in the SOCTIIP Study Area in the City of Lake Forest

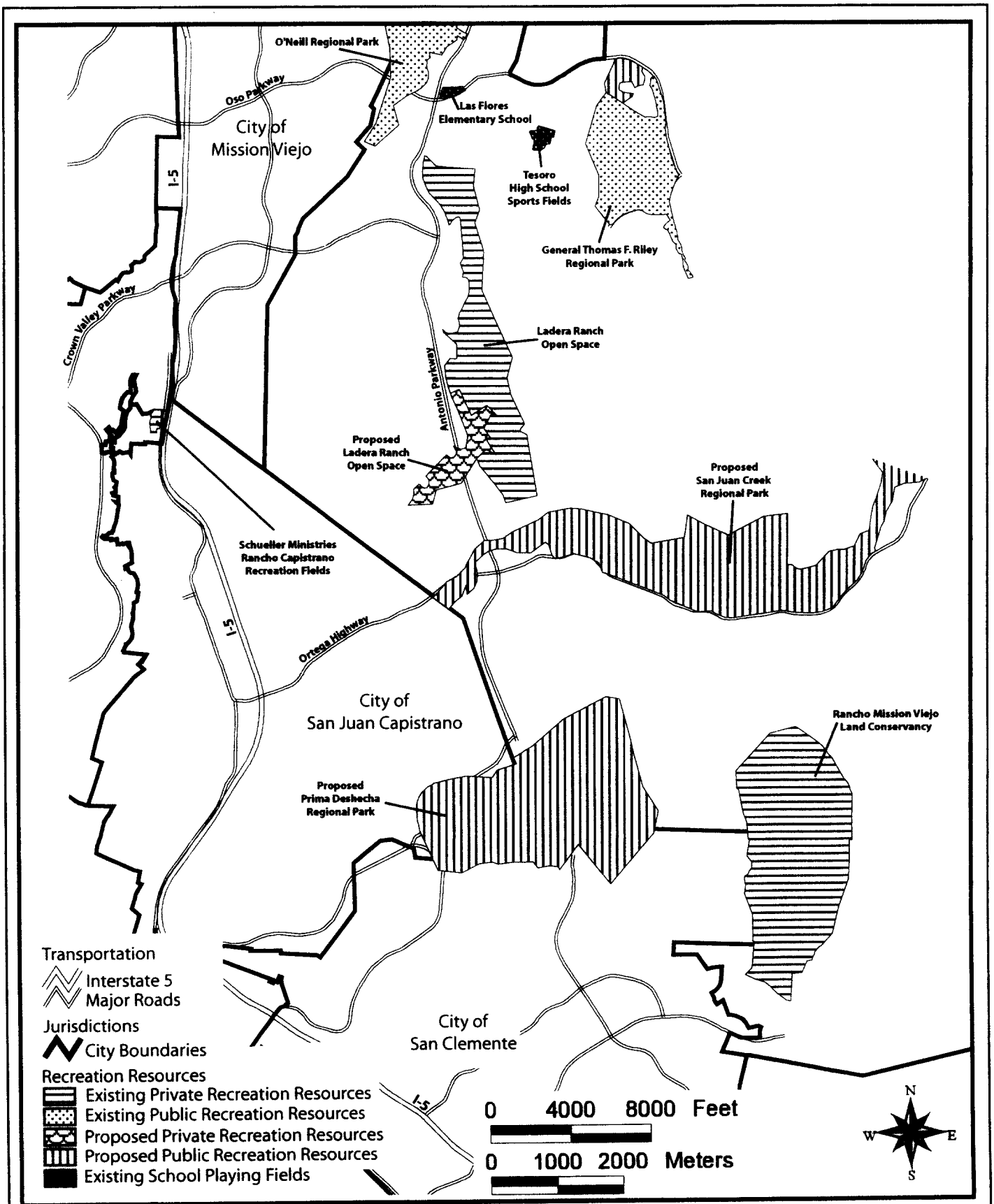
Table 4.25-7
Recreation Resources in Unincorporated Orange County

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
General Thomas F. Riley Wilderness Park 30952 Oso Parkway Coto de Caza.	County of Orange	A regional park of approximately 202 ha (498 ac) and 8 km (5 mi) of trails west of Ortega Highway, immediately west of Oso Parkway, east of the intersection of Antonio Parkway and Oso Parkway. Includes unpaved hiking and bicycling trails, a ranger station/visitor information area and parking.
Donna O'Neill Land Conservancy Access is from Cristianitos Road off Ortega Highway at the "Green Gate."	Donna O'Neill Land Conservancy (private)	A private special use facility of approximately 520 ha (1,284 ac) north of Avenida Pico, south of Ortega Highway, immediately west of Cristianitos Road. Includes a visitor information center, classrooms, parking and trails. Open to public use only by appointment and guided tour.
O'Neill Regional Park 30892 Trabuco Canyon Trabuco Canyon.	County of Orange	A regional park of approximately 1,255 ha (3,100 ac) east of the intersection of Marguerite Parkway and Oso Parkway, west of the intersection of Oso Parkway and Antonio Parkway, immediately north of Oso Parkway. Includes a ranger station/visitor information facility, overnight camping, day camping, picnic facilities, hiking/bicycling/riding trails and parking.
Tesoro High School Sports Fields 29758 Oso Parkway Rancho Santa Margarita.	Capistrano Unified School District	Approximately 13 ha (32 ac) of sports fields east of Antonio Parkway, immediately south of Oso Parkway. Used for public Little League and other organized sports. Includes a football/soccer field, a baseball field, a track, a pool, tennis courts and basketball courts.
Las Flores Elementary School Sports Fields 25862 Antonio Parkway Rancho Santa Margarita.	Capistrano Unified School District	Approximately 4.9 ha (12 ac) of sports fields immediately northeast of the intersection of Antonio Parkway and Oso Parkway, immediately south of Sweetwater. Used for public Little League and other organized sports. Includes a multipurpose field.
Rancho Capistrano (Schuller Ministries part in unincorporated Orange County) 29251 Camino Capistrano San Juan Capistrano	Crystal Cathedral Church	Approximately 4.9 ha (12 ac) of sports fields east of I-5, immediately east of Camino Capistrano, southeast of the I-5/Alicia Parkway interchange. Used by charitable organizations and church related organization. Not open for public use. Includes four soccer fields.
Ladera Ranch Open Space Part of the Ladera development on the east side of Antonio Parkway.	In private ownership.	A special use facility of approximately 293 ha (725 ac). Includes wildlife corridors on the east side of Antonio Parkway/Avenida La Pata and one trail that follows the ridge along the east side of the Conservancy. (The entire Conservancy is 648 ha (1,600 ac) which surrounds the Ladera Ranch development.)

Table 4.25-7 (continued)
Recreation Resources in Unincorporated Orange County

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES (CONTINUED)		
Caspers Regional Park 33401 Ortega Highway	County of Orange	A regional park of approximately 3,237 ha (8,000 ac) off Ortega Highway east of Antonio Parkway. Includes overnight camping facilities, equestrian center and 35 mi trail network.
PROPOSED RECREATION RESOURCES		
Proposed Prima Deshecha Regional Park On the Prima Deshecha Sanitary Landfill site after landfilling is terminated in 2050.	County of Orange	A regional park proposed to be approximately 614 ha (1,518 ac).
~~Proposed San Juan Creek Regional Park~~ ~~Along San Juan Creek from the City of San Juan Capistrano's east border to the entrance of Casper's Regional Park.~~	~~In private ownership.~~	~~A regional park proposed to be approximately 565 ha (1,397 ac).~~ This park is no longer proposed.
Ladera Open Space proposed to be dedicated. Part of Ladera development on the west side of Antonio Parkway.	In private ownership.	Open space proposed to be north of the agricultural area along Ortega Highway and east of Antonio Parkway.

Source: P&D Consultants (2003).
Note:
1. Refer to Figure 4.25-8 for the locations of these recreation resources.



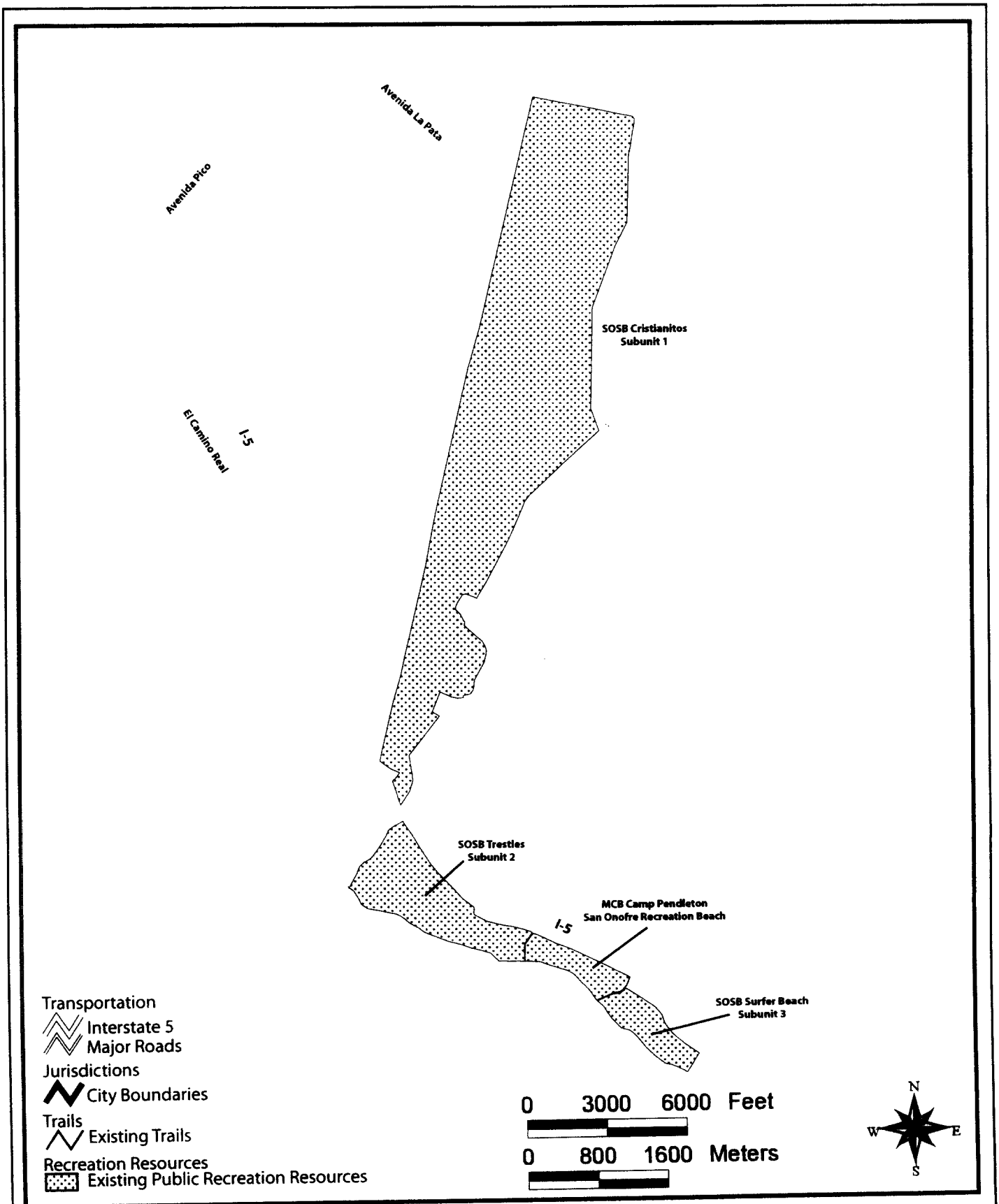
Source: P&D Consultants, 2003.

Existing and Planned Recreation Resources in the SOCTIIP Study Area in Unincorporated Orange County

Table 4.25-8
Recreation Resources in Unincorporated San Diego County

Name and Address	Owner/Operator	Description
EXISTING RECREATION RESOURCES		
San Onofre State Beach (SOSB) Surfer Beach Subunit 3 West side of I- 5 along Old Pacific Coast Highway and north of the San Onofre Nuclear Generating Station (SONGS).	United States Navy/California State Parks	A state park of approximately 31 ha (76 ac) southeast of the Basilone Road/I-5 interchange, immediately northwest of SONGS. Includes beach access, parking, showers, lifeguard towers, restroom and a park gate.
SOSB Trestles Beach Subunit 2 South of Cristianitos Road along beach side of I-5 to Camp Pendleton's San Onofre Recreation Beach area.	United States Navy/California State Parks	A state park of approximately 86 ha (213 ac) immediately south of the Cristianitos Road/I-5 interchange. Includes a pedestrian and bicycle trail and restrooms. It also includes a 33.2 hectare (82 acre) wetland preserve area.
SOSB Cristianitos Subunit 1 East of I-5 extending north to the Orange County border. The remainder of the Subunit parallels Cristianitos Road and includes the San Mateo Campground area and trails.	United States Navy/California State Parks	A state park of approximately 564 ha (1,393 ac) immediately northeast of the Cristianitos Road/I-5 interchange. Includes overnight camping, day camping, pedestrian and bicycle trails, showers/restroom, ~~lifeguard towers~~ and parking.
Camp Pendleton San Onofre Recreation Beach Between SOSB Subunit 2 and Subunit 3.	United States Navy/Camp Pendleton Marine Corps Community Services Department	A regional park of approximately 23 ha (57 ac) south of the Basilone Road/I-5 interchange, immediately southwest of I-5. Includes overnight camping, a clubhouse, lodging facilities, RV camping, a concessions stand, lifeguard towers, picnic areas and parking. Open only to active duty military personnel and military retirees, their families and friends. Not open to the public.

Source: P&D Consultants (2003).
Notes:
1. Refer to Figure 4.25-9 for the locations of these recreation resources.
2. There are no proposed recreation resources in the SOCTIIP study area in unincorporated San Diego County.



Source: P&D Consultants, 2002.

Existing Recreation Resources in the SOCTIIP Study Area in Unincorporated San Diego County

Table 4.25-9
Distances to the 66 dBA Contour for Different Road Cross Sections

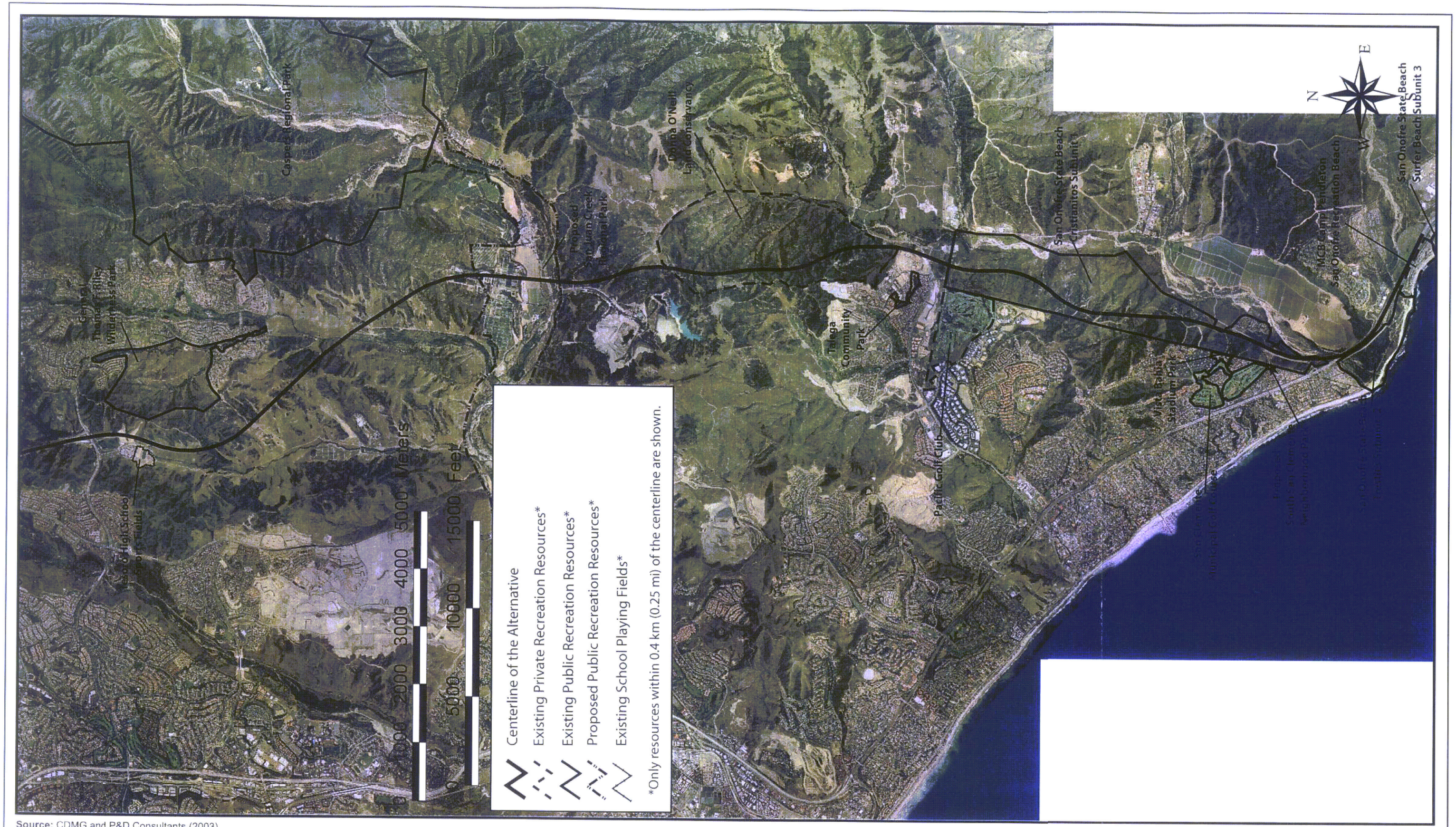
Number of Road Lanes	Distance from Centerline associated with L_{eq}>66 dBA	
	Meters	Feet
4 lanes	121.9	400
6 lanes	152.4	500
8 lanes	198.1	650
10 lanes	228.6	750
12 lanes	259.1	850
14 lanes	381.0	1,250
16 lanes	411.5	1,350

Source: Mestre Greve Associates (2001).

Table 4.25-10
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the FEC-W Alternative

Resource[1]	FEC-W-Initial			FEC-W-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Caspers Regional Park	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~1.7 (4.1)~~	~~26.2 (64.7)~~	~~Yes~~	~~1.7 (4.3)~~	~~26.9 (66.4)~~	~~Yes~~
Donna O'Neill Land Conservancy	66.8 (165.2)	63.5 (157.0)	Yes	68.7 (169.9)	64.8 (160.1)	Yes
Talega Community Park	0	0	No	0	0	No
Pacific Golf Club	0	0	No	0	0	No
SOSB Cristianitos Subunit 1	28.7 (71.1)	117.4 (290.0)	Yes	30.6 (75.6)	122.7 (303.3)	Yes
Vista Bahia Stadium Park	0	0	No	0	0	No
San Clemente Municipal Golf Course	0	0	No	0	0	No
SOSB Trestles Subunit 2	0.4(1.0)	3.5 (8.6)	No	0.4(1.1)	3.5 (8.8)	No
Proposed South San Clemente Neighborhood Park (east)	0	0	No	0	0	No
MCB Camp Pendleton San Onofre Recreation Beach	0	0	No	0	0	No
SOSB Surfer Beach Subunit 3	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-10 for the locations of these resources.



Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the FEC-W Alternative

Table 4.25-11
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the FEC-W Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
Donna O'Neill Land Conservancy	Open space.
SOSB Cristianitos Subunit 1	Open space.
SOSB Trestles Subunit 2	Open space between I-5 and access road.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-10). Refer to Figure 4.25-10 for the locations of these resources.

Table 4.25-12
Indirect Impacts on Recreation Resources Under the FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
Tesoro High School	At its closest point, this resource is 117 m (385 ft) from the centerline and 26 m (84 ft) from the disturbance limits of the FEC-W Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 370 m (1,212 ft) from the centerline and 128 m (421 ft) from the disturbance limits of the FEC-W Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-12 (continued)
Indirect Impacts on Recreation Resources Under the
FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
Caspers Regional Park	At its closest point, this resource in 1,249 m (4,098 ft) from the centerline of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse construction, pile driving or operational noise impacts on this recreation resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~

Table 4.25-12 (continued)
Indirect Impacts on Recreation Resources Under the FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
The Donna O'Neill Land Conservancy	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore only has periodic human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by private controlled access from Cristianitos Road which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
Talega Community Park	At its closest point, this resource is 330 m (1082 ft) from the centerline 238 m (782 ft) from structures and 173 m (568 ft) from the disturbance limits of the FEC-W Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction and pile driving noise impacts of this Alternative would be adverse.
	Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Pacific Golf Club	At its closest point, this resource is 382 m (1252 ft) from the centerline and 7 m (24 ft) from the disturbance limits of the FEC-W Alternative. Noise: This resource would be subject to construction noise impacts from this Alternative which would be adverse. Based on its distance from centerline and structures of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational or pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-12 (continued)
Indirect Impacts on Recreation Resources Under the FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Bahia Stadium Park	At its closest point, this resource is 388 m (1273 ft) from the centerline 368 m (1,206 ft) from structures and 196 m (643 ft) from the disturbance limits of the FEC-W Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction of this Alternative would result in adverse construction noise and pile driving noise impacts at this resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
San Clemente Municipal Golf Course	At its closest point, this resource is 286 m (938 ft) from the centerline 253 m (830 ft) from structures and 178 m (585 ft) from the disturbance limits of the FEC-W Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction of this Alternative would result in adverse construction and pile driving noise impacts at this resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.

Table 4.25-12 (continued)
Indirect Impacts on Recreation Resources Under the FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
Proposed South San Clemente Neighborhood Park (east)	At its closest point, this resource is 305 m (1,002 ft) from the centerline 273 m (896 ft) from structures and 171 m (561 ft) from the disturbance limits of the FEC-W Alternative. Noise: This proposed resource would be not subject to adverse operational, construction noise or pile driving noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
SOSB Cristianitos Subunit 1	This Alternative is within the boundary of this resource. Noise: This resource would be subject to construction, pile driving and operational noise impacts from this Alternative which would be adverse. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: This resource could potentially experience short term adverse access impacts during construction.
	Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
SOSB Trestles Subunit 2	This Alternative is within the boundary of this resource. Noise: This resource would be subject to pile driving and construction noise impacts from this Alternative which would be adverse. This resource would not be subject to operational impacts because of the design of the Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-12 (continued)
Indirect Impacts on Recreation Resources Under the FEC-W Alternative

Resource	Indirect Impacts of the FEC-W
MCB Camp Pendleton San Onofre Recreation Beach	At its closest point, this resource is 55 m (182 ft) from the centerline 32 m (104 ft) from structures and 19 m (63 ft) from the disturbance limits of the FEC-W Alternative. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
SOSB Surfer Beach Subunit 3	At its closest point, this resource is 175 m (575 ft) from the centerline and 124 m (408 ft) from the disturbance limits of the FEC-W Alternative. Noise: This Alternative would not have any operational impacts on this resource under the FEC-W Ultimate configuration. This resource would be subject to adverse construction noise impacts from this Alternative. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-13
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the FEC-M Alternative

Resource[1]	FEC-M-Initial			FEC-M-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Caspers Regional Park	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~1.4 (3.4)~~	~~13.6 (33.6)~~	~~Yes~~	~~1.5 (3.2)~~	~~15.5 (38.2)~~	~~Yes~~
Donna O'Neill Land Conservancy	0.6 (1.4)	23.9 (59.1)	Yes	0.7 (2.4)	24.7 (61.1)	Yes
Talega Community Park	0	0	No	0	0	No
Pacific Golf Club	0	0	No	0	0	No
SOSB Cristianitos Subunit 1	28.6 (70.8)	117.4 (290.0)	Yes	30.6 (75.4)	122.7 (303.3)	Yes
Vista Bahia Stadium Park	0	0	No	0	0	No
San Clemente Municipal Golf Course	0	0	No	0	0	No
SOSB Trestles Subunit 2	0.4(1.0)	3.5 (8.6)	No	0.4(1.0)	3.5 (8.8)	No
Proposed South San Clemente Neighborhood Park (east)	0	0	No	0	0	No
MCB Camp Pendleton San Onofre Recreation Beach	0	0	No	0	0	No
SOSB Surfer Beach Subunit 3	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-11 for the locations of these resources.

Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the FEC-M Alternative

Centerline of the Alternative
Existing Private Recreation Resources*
Existing Public Recreation Resources*
Proposed Public Recreation Resources*
Existing School Playing Fields*

*Only resources within 0.4 km (0.25 mi) of the centerline are shown.

0 1000 2000 3000 4000 5000 Meters
0 5000 10000 15000 Feet

Rancho High School Playing Fields
Glen Ivar Trailhead Riverside County Wilderness Park
Proposed San Juan Creek Regional Park
Donna O'Neill Land Conservancy
Talega Community Park
Pacific Golf Club
Vista Dalia Stadium Park
San Onofre State Beach Cristianitos Subunit 1
MCB Camp Pendleton San Onofre Recreation Beach
San Onofre State Beach Surfer Beach Subunit 3
Caspers Regional Park

Table 4.25-14
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the FEC-M Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
Donna O'Neill Land Conservancy	Open space.
SOSB Cristianitos Subunit 1	Open space.
SOSB Trestles Subunit 2	Open space between I-5 and access road.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-13). Refer to Figure 4.25-11 for the locations of these resources.

Table 4.25-15
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
Tesoro High School	At its closest point, this resource is 117 m (385 ft) from the centerline and 21 m (70 ft) from the disturbance limits of the FEC-M Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 1212 m (370 ft) from the centerline and 128 m (421 ft) from the disturbance limits of the FEC-M Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the
FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
Caspers Regional Park	At its closest point, this resource in 1,249 m (4,098 ft) from the centerline of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse construction, pile driving or operational noise impacts on this recreation resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
The Donna O'Neill Land Conservancy	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore only has periodic frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by private controlled access from Cristianitos Road which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
Talega Community Park	At its closest point, this resource is 342 m (1,121 ft) from the centerline 236 m (775 ft) from structures and 36 m (120 ft) from the disturbance limits of the FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction and pile driving noise impacts of this Alternative would be adverse.
	Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
Pacific Golf Club	At its closest point, this resource is 381 m (1,252 ft) from the centerline and 7 m (24 ft) from the disturbance limits of the FEC-M Alternative. Noise: This resource would be subject to construction noise impacts from this Alternative which would be adverse. Based on its distance from centerline and structures of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational or pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Bahia Stadium Park	At its closest point, this resource is 388 m (1273 ft) from the centerline 368 m (1,207 ft) from structures and 199 m (652 ft) from the disturbance limits of the FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction of this Alternative would result in adverse construction and pile driving noise impacts at this resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
San Clemente Municipal Golf Course	At its closest point, this resource is 286m (938 ft) from the centerline 253 m (850 ft) from structures and 178 m (585 ft) from the disturbance limits of the FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction of this Alternative would result in adverse construction and pile driving noise impacts at this resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed South San Clemente Neighborhood Park (east)	At its closest point, this resource is 305 m (1,002 ft) from the centerline 273 m (896 ft) from structures and 171 m (561 ft) from the disturbance limits of the FEC-M Alternative. Noise: This proposed resource would be not subject to adverse operational, construction noise or pile driving noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.
	Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
SOSB Cristianitos Subunit 1	This Alternative is within the boundary of this resource. Noise: This resource would be subject to construction, pile driving and operational noise impacts from this Alternative which would be adverse. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: This resource could potentially experience short term adverse access impacts during construction.
	Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
SOSB Trestles Subunit 2	This Alternative is within the boundary of this resource. Noise: This resource would be subject to pile driving and construction noise impacts from this Alternative which would be adverse. This resource would not be subject to operational impacts because of the design of the Alternatives. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
MCB Camp Pendleton San Onofre Recreation Beach	At its closest point, this resource is 55 m (182 ft) from the centerline 32 m (104 ft) from structures and 19 m (63 ft) from the disturbance limits of the FEC-M Alternative. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-15 (continued)
Indirect Impacts on Recreation Resources Under the FEC-M Alternative

Resource	Indirect Impacts of the FEC-M
SOSB Surfer Beach Subunit 3	At its closest point, this resource is 175 m (575 ft) from the centerline and 124 m (408 ft) from the disturbance limits of the FEC-M Alternative. Noise: This Alternative would not have any operational impacts on this resource under the FEC-M Ultimate configuration. This resource would be subject to adverse construction noise impacts from this Alternative. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-16
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the CC Alternative

Resource[1]	CC-Initial			CC-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Ladera Ranch Open Space	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~8.9 (22.2)~~	~~4.5 (11.0)~~	~~Yes~~	~~8.5 (21.0)~~	~~5.2 (12.8)~~	~~Yes~~
San Juan Capistrano Open Space and Trails	1.3 (3.3)	0.3 (0.8)	No	1.1 (2.8)	0.3 (0.8)	No
Proposed Prima Deshecha Regional Park	7.9 (19.4)	30.0 (74.2)	Yes	7.1 (17.5)	37.5 (92.8)	Yes
San Clemente High School Sports Fields	0.4 (0.8)	2.4 (6.0)	No	0.4 (1.0)	2.4 (6.0)	No
Ole Hanson Elementary School Sports Fields	0.2 (0.6)	0.2 (0.4)	No	0.2 (0.6)	0.2 (0.4)	No
Verde Park	0	0	No	0	0	No
Bonito Canyon Park	0	0	No	0	0	No
Talega Golf Course	0	0	No	0	0	No
Proposed Talega Elementary Sports Fields	0	0	No	0	0	No
Shorecliffs Middle School Sports Fields	0	0	No	0	0	No
Proposed Marblehead Sports Park	0	0	No	0	0	No
San Clemente Municipal Golf Course	0	0	No	0	0	No
San Luis Rey Park	0	0	No	0	0	No
Concordia Elementary School Sports Fields	0	0	No	0	0	No

Table 4.25-16 (continued)
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the CC Alternative

Resource[1]	CC-Initial			CC-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
San Clemente State Beach	1.2 (2.9)	1.2 (2.9)	No	1.2 (2.9)	1.2 (2.9)	No
SOSB Cristianitos Subunit 1	0	1.1 (2.7)	No	0	1.1 (2.7)	No
Proposed Talega Community Park West	0	0	No	0	0	No
Proposed Our Lady of Fatima Park	0	0	No	0	0	No
Proposed South San Clemente Neighborhood Park (east)	0	0	No	0	0	No
Proposed South San Clemente Neighborhood Park (west)	0	0	No	0	0	No
Proposed Concordia Park	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-12 for the locations of these resources.

Recreation Resources in the Study Area for the CC Alternative

Source: CDMG and P&D Consultants (2003)

Centerline of the Alternative
Existing Private Recreation Resources*
Existing Public Recreation Resources*
Proposed Public Recreation Resources*
Existing School Playing Fields*
Proposed School Playing Fields*
Proposed Recreation Resources (no boundary available)*

*Only resources within 0.4 km (0.25 mi) of the centerline are shown.

0 1000 2000 3000 4000 5000 Meters
0 5000 10000 15000 Feet

N

Bonito Cove Park
Storer Park Ball Fields
Storer Park Soccer Fields
Marblehead Park
Lemonade Court
Marblehead Park
Proposed Marblehead Park
Proposed Trails
Open Space and Trails
Proposed Piuma Deshecha Regional Park
Viejo Del Mar Elementary and Middle School Sports Fields
San Clemente High School Sports Fields
Verde Park
Ole Hanson Beach Club
Ole Hanson Recreational School Sports Fields
El Camino Real Park
Luis Rey Park
EDB
Talega Golf Course
Proposed Talega Community Park West
Proposed San Juan Hills Golf Course
Proposed San Juan Hills High School Sports Fields
Cristianitos Subunit 1
San Onofre State Beach
Cristianitos Subunit 2
San Onofre Bluffs Subunit 2
San Onofre Bluffs Subunit 1
Trestles Subunit 2
Trestles Subunit 1
Cristianitos Subunit 3
Cristianitos Subunit 4
Cristianitos Subunit 5
Cristianitos Subunit 6
Cristianitos Subunit 7
Cristianitos Subunit 8
Cristianitos Subunit 9
Cristianitos Subunit 10
Cristianitos Subunit 11
Cristianitos Subunit 12
Cristianitos Subunit 13
Cristianitos Subunit 14
Cristianitos Subunit 15
Cristianitos Subunit

Table 4.25-17
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the CC Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
San Juan Capistrano Open Space and Trails	Open space.
Proposed Prima Deshecha Regional Park	Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.
Ole Hanson Elementary School Sports Fields	Children's playground and part of field.
San Clemente High School Sports Fields	Part of one baseball diamond and part of the track.
San Clemente State Beach	Open space along I-5.
SOSB Cristianitos Subunit 1	Part of parking lot.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-16). Refer to Figure 4.25-12 for the locations of these resources.

Table 4.25-18
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Tesoro High School Sports Fields	At its closest point, this resource is 103 m (337 ft) from the centerline and 29 m (94 ft) from the disturbance limits of the CC Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 376 m (1,232 ft) from the centerline of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Ladera Ranch Open Space	At its closest point, this resource is 206 m (676 ft) from the centerline and 51 m (166 ft) from the disturbance limits of this Alternative. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative would not result in visual impacts to viewers because this resource is not available for recreational or other public uses.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~
San Juan Capistrano Open Space and Trails	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Proposed Prima Deshecha Regional Park	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.
	Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.
San Clemente High School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to construction, pile driving and operational noise impacts from this Alternative which would be adverse. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes ramps adjacent to the west side of this resource that will introduce new elevated structures into the viewshed. However, this impact would not be substantially adverse because the use of this resource is for active sports and users would not be sensitive to changes in the viewshed.
Ole Hanson Elementary School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to pile driving and construction noise impacts from this Alternative which would be adverse. Operational impacts of this Alternative on this resource would not be adverse because the design of this Alternative shields this resource from existing noise sources resulting in a reduction of noise impacts at this resource. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes ramps adjacent to the west side of this resource that will introduce new elevated structures into the viewshed. However, this impact would not be substantially adverse because the use of this resource is for active sports and users would not be sensitive to changes in the viewshed.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Verde Park	At its closest point, this resource is 185 m (606 ft) from the centerline, 191m (628 ft) from structures, and 154 m (506 ft) from the disturbance limits of the CC Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. However, this resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: Based on the distance of this resource from the centerline and intervening topography and land uses, this Alternative will not result in adverse visual impacts on this recreation resource.
Bonito Canyon Park	At its closest point, this resource is 186 m (609 ft) from the centerline, 263 m (862 ft) from structures and 121 m (396 ft) from disturbance limits of the CC Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. However, this resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Talega Golf Course	At its closest point, this resource is 102 m (334 ft) from the centerline, 356 m (1,168 ft) from structures and 96 m (315 ft) from disturbance limits of the CC Alternative. Noise: Based on the distance from centerline and intervening topography, this resource would not be subject to adverse operational impacts of this Alternative. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Del Mar Elementary and Middle School Sports Fields	At its closest point, this resource is 270 m (887 ft) from the centerline, 356 m (1,168 ft) from structures and 131 m (430 ft) from disturbance limits of the CC Alternative. Noise: Based on its distance from centerline of this Alternative, this resource will not experience adverse operational noise impacts. This resource would be subject to adverse construction and pile driving noise. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall southwest of the resource that will partially screen current views of a ridge to the west. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
Proposed Talega Community Park West	At its closest point, this resource is 414 m (1,359 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Shorecliffs Middle School Sports Fields	At its closest point, this resource is 294 m (966 ft) from the centerline of this Alternative. Noise: Based on its distance from centerline, structures and disturbance limits of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts.
	Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Marblehead Sports Park	At its closest point, this resource is 286 m (938 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Clemente Municipal Golf Course	At its closest point, this resource is 94 m (308 ft) from the centerline, 69 m (225 ft) from structures and 29 m (95 ft) from disturbance limits of the CC Alternative. Noise: This resource would be subject to construction and pile driving noise impacts from this Alternative which would be adverse. Operational impacts of this Alternative on this resource would not be adverse. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Luis Rey Park	At its closest point, this resource is 128 m (418 ft) from the centerline, 95 m (313 ft) from structures and 63 m (206 ft) from disturbance limits of the CC Alternative. Noise: This resource would be subject to construction and pile driving noise impacts from this Alternative which would be adverse. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Concordia Elementary School Sports Fields	At its closest point, this resource is 105 m (344 ft) from the centerline, 300 m (982 ft) from structures and 51 m (166 ft) from disturbance limits of the CC Alternative. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
San Clemente State Beach	This Alternative is within the boundary of this resource.
	Noise: This resource would be subject to construction and pile driving noise impacts from this Alternative which would be adverse. Operational impacts of this Alternative on this resource would not be adverse. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
SOSB Cristianitos Subunit 1	This Alternative is within the boundary of this resource. Noise: This resource would be subject to construction and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Our Lady of Fatima Park	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

Resource	Indirect Impacts of the CC
Proposed South San Clemente Neighborhood Park (west)	At its closest point, this resource is 113 m (370 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed South San Clemente Neighborhood Park (east)	At its closest point, this resource is 355 m (1,163 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.

Table 4.25-18 (continued)
Indirect Impacts on Recreation Resources under the CC Alternative

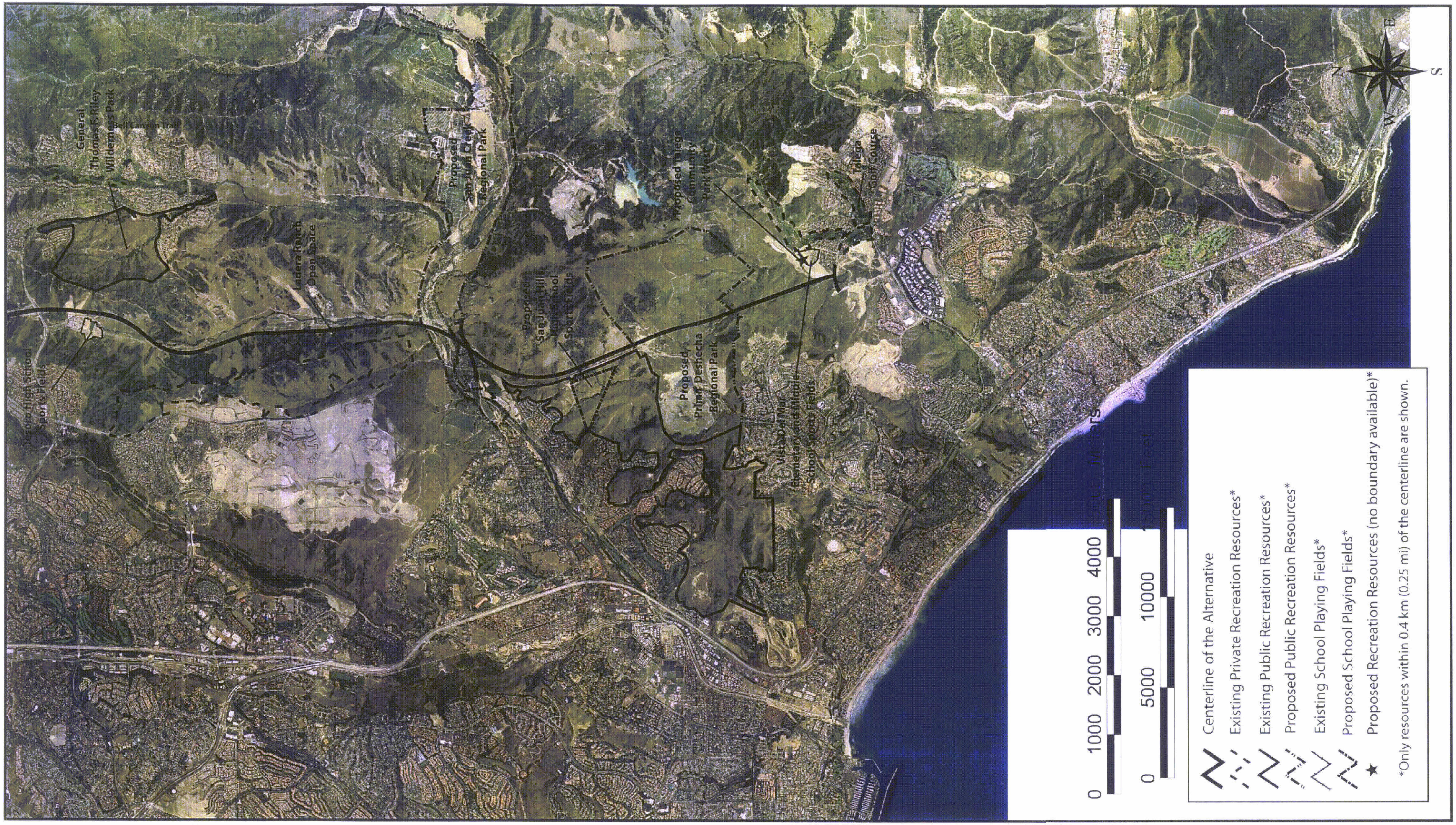
Resource	Indirect Impacts of the CC
Proposed Concordia Park	At its closest point, this resource is 366 m (1,197 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed San Juan Hills High School Sports Fields	At its closest point, this resource is 187 m (615 ft) from the centerline, 1,595 m (5,232 ft) from structures and 110 m (136 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction and operational noise impacts if this resource is operational during construction and operation of this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource will be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-19
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the CC-ALPV Alternative

Resource[1]	CC-ALPV-Initial			CC-ALPV-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Ladera Ranch Open Space	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~8.9 (22.2)~~	~~4.5 (11.0)~~	~~Yes~~	~~8.5 (21.0)~~	~~5.2 (12.8)~~	~~Yes~~
San Juan Capistrano Open Space and Trails	1.0 (2.5)	0.3 (0.8)	No	1.2 (2.8)	0.3 (0.8)	No
Proposed Prima Deshecha Regional Park	8.0 (19.6)	30.0 (74.2)	Yes	7.1 (17.4)	37.5 (92.8)	Yes
Talega Golf Course	0	0	No	0	0	No
Proposed Talega Elementary School Sports Fields	0	0	No	0	0	No
Proposed Talega Community Park West	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-13 for the locations of these resources.



Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the CC-ALPV Alternative

Table 4.25-20
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the CC-ALPV Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
San Juan Capistrano Open Space and Trails	Open space.
Proposed Prima Deshecha Regional Park	Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-19). Refer to Figure 4.25-13 for the locations of these resources.

Table 4.25-21
Indirect Impacts on Recreation Resources Under the CC-ALPV-Alternative

Resource	Indirect Impacts of the CC-ALPV
Tesoro High School Sports Fields	At its closest point, this resource is 103 m (337 ft) from the centerline and 29 m (94 ft) from the disturbance limits of the CC-ALPV Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 376 m (1,232 ft) from the centerline and 214 m (702 ft) from the disturbance limits of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-21 (continued)
Indirect Impacts on Recreation Resources Under the CC-ALPV-Alternative

Resource	Indirect Impacts of the CC-ALPV
Ladera Ranch Open Space	At its closest point, this resource is 206 m (676 ft) from the centerline, 51 m (166 ft) from the disturbance limits and 182 m (598 ft) from the structures of this Alternative. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative would not result in visual impacts to viewers because this resource is not available for recreational or other public uses.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~
San Juan Capistrano Open Space and Trails	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-21 (continued)
Indirect Impacts on Recreation Resources Under the CC-ALPV-Alternative

Resource	Indirect Impacts of the CC-ALPV
Proposed Prima Deshecha Regional Park	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.
Talega Golf Course	At its closest point, this resource is 206 m (693 ft) from the centerline, 349 m (1,147 ft) from structures and 28 m (92 ft) from disturbance limits of the CC-ALPV Alternative. Noise: Based on the distance from centerline and intervening topography, this resource would not be subject to adverse operational impacts of this Alternative. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Del Mar Elementary and Middle School Sports Fields	At its closest point, this resource is 270 m (887 ft) from the centerline, 358 m (1,173 ft) from structures and 131 m (430 ft) from the disturbance limits of the CC-ALPV Alternative. Noise: Based on its distance from centerline of this Alternative, this resource will not experience adverse operational noise impacts. This resource would be subject to adverse construction and pile driving noise impacts if construction is completed prior to implementation of this Alternative.
	Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-21 (continued)
Indirect Impacts on Recreation Resources Under the CC-ALPV-Alternative

Resource	Indirect Impacts of the CC-ALPV
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall southwest of the resource that will partially screen current views of a ridge to the west. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
Proposed Talega Community Park West	At its closest point, this resource is 414 m (1,359 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.
Proposed San Juan Hills High School Sports Fields	At its closest point, this resource is 187 m (615 ft) from the centerline, 1,595 m (5,232 ft) from structures and 110 m (136 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction and operational noise impacts if this resource is operational during construction and operation of this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource will be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-22
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the A7C-ALPV Alternative

Resource[1]	A7C-ALPV-Initial			A7C-ALPV-Ultimate		
	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Ladera Ranch Open Space	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~3.9 (9.8)~~	~~10.1 (24.7)~~	~~Yes~~	~~5.0 (12.3)~~	~~10.5 (26.1)~~	~~Yes~~
Proposed Prima Deshecha Regional Park	5.6 (13.9)	47.0 (116.1)	Yes	4.8 (11.8)	53.9 (133.3)	Yes
Talega Golf Course	1.3 (3.3)	13.5 (33.2)	Yes	0.7 (1.6)	18.2 (45.0)	Yes
Proposed Talega Elementary School Sports Fields	0	0	No	0	0	No
Talega Swim and Athletic Club	0	0	No	0	0	No
Proposed Talega Community Park West	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-14 for the locations of these resources.

Recreation Resources in the Study Area for the ATC-ALPV Alternative

Source: CDMG and P&D Consultants (2003)

Table 4.25-23
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the A7C-ALPV Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
Proposed Prima Deshecha Regional Park	Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.
Talega Golf Course	Fairway, water feature, clubhouse, and parking lot.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-22). Refer to Figure 4.25-14 for the locations of these resources.

Table 4.25-24
Indirect Impacts on Recreation Resources Under the A7C-ALPV Alternative

Resource	Indirect Impacts of the A7C-ALPV
Tesoro High School Sports Fields	At its closest point, this resource is 103 m (337 ft) from the centerline and 8 m (27 ft) from the disturbance limits of the A7C-ALPV Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 376 m (1,232 ft) from the centerline and 94 m (309 ft) from the disturbance limits of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-24 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-ALPV Alternative

Resource	Indirect Impacts of the A7C-ALPV
Ladera Ranch Open Space	At its closest point, this resource is 36 m (119 ft) from the centerline, 142 m (467 ft) from the disturbance limits and 273 m (897 ft) from the structures of this Alternative. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use.
	Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative would not result in visual impacts to viewers because this resource is not available for recreational or other public uses.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~
Proposed Prima Deshecha Regional Park	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.

Table 4.25-24 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-ALPV Alternative

Resource	Indirect Impacts of the A7C-ALPV
	Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.
Talega Golf Course	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse pile driving, construction and operational noise impacts from this Alternative.
	Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
Proposed Talega Community Park West	At its closest point, this resource is 489 m (1,604 ft) from the centerline of this Alternative. Noise: This proposed resource would not be subject to adverse operational, pile driving or construction noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.
Vista Del Mar Elementary and Middle School Sports Fields	At its closest point, this resource is 235 m (771 ft) from the centerline and 155 m (508 ft) from the disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource will not be subject to adverse operational or pile driving noise impacts. This resource would be subject to adverse construction noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-24 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-ALPV Alternative

Resource	Indirect Impacts of the A7C-ALPV
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall southwest of the resource that will partially screen current views of a ridge to the west. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
Talega Swim and Athletic Club	At its closest point, this resource is 173 m (567 ft) from the centerline and 146 m (480 ft) from the disturbance limits of theA7C-ALPV Alternative. Noise: This resource would be subject to adverse construction noise impacts from this Alternative. Based on the distance from the centerline and structures of this Alternative, no adverse operational or pile driving noise impacts would occur under this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-25
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the A7C-FEC-M/Preferred Alternative

Resource[1]	A7C-FEC-M-Initial			A7C-FEC-M-Ultimate		
	Area of Temporary Use ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?	Area of Temporary Use ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Tesoro High School Sports Fields	0	0	No	0	0	No
General Thomas F. Riley Wilderness Park	0	0	No	0	0	No
Caspers Regional Park	0	0	No	0	0	No
~~Proposed San Juan Creek Regional Park~~	~~2.0 (5.1)~~	~~8.9 (21.9)~~	~~Yes~~	~~2.0 (4.8)~~	~~10.3 (25.5)~~	~~Yes~~
Donna O'Neill Land Conservancy	65.4 (161.5)	62.0 (153.3)	Yes	67.4 (166.5)	63.4 (156.6)	Yes
Talega Community Park	0	0	No	0	0	No
Pacific Golf Club	0	0	No	0	0	No
SOSB Cristianitos Subunit 1	28.6 (40.8)	117.4 (290.0)	Yes	30.5 (75.4)	122.7 (303.3)	Yes
Vista Bahia Stadium Park	0	0	No	0	0	No
San Clemente Municipal Golf Course	0	0	No	0	0	No
SOSB Trestles Subunit 2	0.4(1.0)	3.5 (8.6)	No	0.4(1.1)	3.5 (8.8)	No
Proposed South San Clemente Neighborhood Park (east)	0	0	No	0	0	No
MCB Camp Pendleton San Onofre Recreation Beach	0	0	No	0	0	No
SOSB Surfer Beach Subunit 3	0	0	No	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-15 for the locations of these resources.

Recreation Resources in the Study Area for the ATC-FEC-M Alternative

Source: CDMG and P&D Consultants (2003)

Centerline of the Alternative
Existing Private Recreation Resources*
Existing Public Recreation Resources*
Proposed Public Recreation Resources*
Existing School Playing Fields*
Proposed Recreation Resources (no boundary available)*

*Only resources within 0.4 km (0.25 mi) of the centerline are shown.

Table 4.25-26
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Land ~~Property~~ at Recreation Resources Under the A7C~~V~~-FEC-M/Preferred Alternative

Resource[1]	Amenities Affected
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
The Donna O'Neill Land Conservancy	Open space.
SOSB Cristianitos Subunit 1	Open space.
SOSB Trestles Subunit 2	Open space between I-5 and access road.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of ~~property~~ land (Table 4.25-25). Refer to Figure 4.25-15 for the locations of these resources.

Table 4.25-27
Indirect Impacts on Recreation Resources Under the
A7C-FEC-M/Preferred Alternative

Resource	Indirect Impacts of the A7C-FEC-M/Preferred
Tesoro High School	At its closest point, this resource is 117 m (385 ft) from the centerline and 30 m (97 ft) from the disturbance limits of the A7C-FEC-M Alternative. Noise: This resource would be subject to construction noise and operational noise impacts from this Alternative which would be adverse. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative includes a sound wall adjacent to the east side of this resource that will screen current views of a ridge to the east. However, this impact would not be substantially adverse because the active use of this resource would not be affected by a sound wall.
General Thomas F. Riley Wilderness Park	At its closest point, this resource is 370 m (1,212 ft) from the centerline and 128 m (421 ft) from the disturbance limits of the A7C-FEC-M Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. Noise from the construction of this Alternative would impact this resource, but not adversely because it would affect an area that does not have frequent human use. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: Construction, pile driving and operational noise impacts of this Alternative on this proposed resource would not be adverse because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~

Table 4.25-27 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-FEC-M/Preferred Alternative

Resource	Indirect Impacts of the A7C-FEC-M/Preferred
	~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: Views from this proposed resource would be substantially affected by this Alternative. Therefore, this would be an adverse impact of this Alternative.~~
The Donna O'Neill Land Conservancy	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this Alternative on this resource would not be adverse because the use is open space and therefore only has periodic frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by private controlled access from Cristianitos Road which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
Talega Community Park	At its closest point, this resource is 336 m (1,101 ft) from the centerline, 173 m (568 ft) from the disturbance limits and 238 m (782 ft) from the structures of the A7C-FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction and pile driving noise impacts of this Alternative would be adverse. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-27 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-FEC-M/Preferred Alternative

Resource	Indirect Impacts of the A7C-FEC-M/Preferred
Pacific Golf Club	At its closest point, this resource is 387 m (1,271 ft) from the centerline and 7 m (24 ft) from the disturbance limits of the A7C-FEC-M Alternative. Noise: Based on its distance from centerline and structures of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. This resource would be subject to construction and pile driving noise impacts from this Alternative which would be adverse. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Bahia Stadium Park	At its closest point, this resource is 388 m (1,273 ft) from the centerline, 199 m (652 ft) from the disturbance limits and 368 m (1,207 ft) from the structures of the A7C-FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational or construction noise impacts. Construction of this Alternative would result in adverse pile driving noise impacts at this resource. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
San Clemente Municipal Golf Course	At its closest point, this resource is 286 m (938 ft) from the centerline, 178 m (585 ft) from the disturbance limits and 253 m (830 ft) from the structures of the A7C-FEC-M Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. Construction of this Alternative would result in adverse construction and pile driving noise impacts at this resource.

Table 4.25-27 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-FEC-M/Preferred Alternative

Resource	Indirect Impacts of the A7C-FEC-M/Preferred
	Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed South San Clemente Neighborhood Park (east)	At its closest point, this resource is 305 m (1,002 ft) from the centerline and 171 m (560 ft) from the disturbance limits of the A7C-FEC-M Alternative. Noise: This proposed resource would be not subject to adverse operational, construction noise or pile driving noise impacts from this Alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
SOSB Cristianitos Subunit 1	This Alternative is within the boundary of this resource. Noise: This resource would be subject to construction, pile driving and operational noise impacts from this Alternative which would be adverse. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: This resource could potentially experience short term adverse access impacts during construction. Visual: This Alternative will result in changes to views from this resource. Those changes are considered substantially adverse because this Alternative will bring new elements into the viewshed that reduce the quality of existing views.
SOSB Trestles Subunit 2	This Alternative is within the boundary of this resource. Noise: This resource would be subject to pile driving and construction noise impacts from this Alternative which would be adverse. This resource would not be subject to operational impacts because of the design of the Alternatives.

Table 4.25-27 (continued)
Indirect Impacts on Recreation Resources Under the
A7C-FEC-M/Preferred Alternative

Resource	Indirect Impacts of the A7C-FEC-M/Preferred
	Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
MCB Camp Pendleton San Onofre Recreation Beach	At its closest point, this resource is 56 m (183 ft) from the centerline, 19 m (63 ft) from the disturbance limits and 32 m (104 ft) from structures of the A7C-FEC-M Alternative. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
SOSB Surfer Beach Subunit 3	At its closest point, this resource is 175 m (575 ft) from the centerline and 124 m (408 ft) from the disturbance limits of the A7C-FEC-M Alternative. Noise: This Alternative would not have any operational impacts on this resource under the FEC-M Ultimate configuration. This resource would be subject to adverse construction noise impacts from this Alternative. This resource would not be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-28
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the AIO Alternative

Resource[1]	Area of Temporary Use ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Las Flores Elementary School Sports Fields	2.4 (6.0)	2.2 (5.4)	No
O'Neill Regional Park	0	0	No
Ladera Ranch Open Space	2.5 (6.3)	1.2 (3.0)	No
Proposed Ladera Ranch Open Space	2.2 (5.3)	4.2 (10.4)	Yes
~~Proposed San Juan Creek Regional Park~~	~~0.8 (1.8)~~	~~2.1 (5.3)~~	~~Yes~~
San Juan Capistrano Open Space and Trails	9.7 (24.1)	6.1 (15.0)	No
Proposed Prima Deshecha Regional Park	35.0 (86.5)	24.5 (60.6)	Yes
Pacific Golf Club	0	0	No
Proposed Talega Community Park West	0	0	No
Proposed Talega Elementary School Sports Fields	0	0	No
Talega Golf Course	0	0	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-16 for the locations of these resources.

Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the AIO Alternative

Figure 4.25-16

Table 4.25-29
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the AIOAlternative

Resource[1]	Amenities Affected
Las Flores Elementary School Sports Fields	Sports field.
Existing Ladera Ranch Open Space	Open space along Antonio Parkway.
Proposed Ladera Ranch Open Space	Open space along Antonio Parkway.
~~Proposed San Juan Creek Regional Park~~	~~Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.~~
San Juan Capistrano Open Space and Trails	Open space and part of riding trails and parking lot.
Proposed Prima Deshecha Regional Park	Unknown. This is a proposed park and there are no plans available which identify amenities in the area affected by this Alternative.
Proposed San Juan Hills School Sports Fields	Sports fields.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary occupancy and/or permanent acquisition of property (Table 4.25-28). Refer to Figure 4.25-16 for the locations of these resources.

Table 4.25-30
Indirect Impacts on Recreation Resources Under the AIO Alternative

Resource	Indirect Impacts of the AIO Alternative
Las Flores Elementary School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction and pile driving noise impacts from this alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
O'Neill Regional Park	At its closest point, this resource is 37 m (121 ft) from the centerline, 273 m (894 ft) from structures and 25 m (81 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Operational impacts of this Alternative would not be adverse because improvements would not exceed adopted thresholds. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Ladera Ranch Open Space	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.

Table 4.25-30
Indirect Impacts on Recreation Resources Under the AIO Alternative

Resource	Indirect Impacts of the AIO Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative would not result in visual impacts to viewers because this resource is not available for recreational or other public uses.
Proposed Ladera Ranch Open Space	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative would not result in visual impacts to viewers because this resource is not available for recreational or other public uses.
~~Proposed San Juan Creek Regional Park~~	~~This Alternative is within the boundary of this resource.~~ ~~Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply.~~ ~~Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.~~ ~~Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.~~ ~~Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.~~
San Juan Capistrano Open Space and Trails	This Alternative is within the boundary of this resource. Noise: Construction, pile driving and operational noise impacts of this alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.

Table 4.25-30
Indirect Impacts on Recreation Resources Under the AIO Alternative

Resource	Indirect Impacts of the AIO Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Prima Deshecha Regional Park	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Pacific Golf Club	At its closest point, this resource is 197 m (645 ft) from the centerline, 208 m (683 ft) from structures and 92 m (301 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. This resource would be subject to adverse construction and pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-30
Indirect Impacts on Recreation Resources Under the AIO Alternative

Resource	Indirect Impacts of the AIO Alternative
Proposed Talega Community Park West	At its closest point, this resource is 804 m (2,638 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Vista Del Mar Elementary and Middle School Sports Fields	At its closest point, this resource is 638 m (2,092 ft) from the centerline of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource would not experience adverse operational, construction or pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Talega Golf Course	At its closest point, this resource is 533 m (1,750 ft) from the centerline of this Alternative. Noise: Based on its distance from centerline, structures and disturbance limits of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational, construction or pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-30
Indirect Impacts on Recreation Resources Under the AIO Alternative

Resource	Indirect Impacts of the AIO Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed San Juan Hills High School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction and operational noise impacts if this resource is operational during construction and operation of this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource will be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Source: P&D Consultants (2003).

Table 4.25-31
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the I-5 Alternative

Resource [1]	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Cavanaugh Gowdy Park	0	2.2 (5.4)	No
Sycamore Park	0	0	No
La Tierra Elementary School Sports Fields	0	0	No
Aegean Park	0	0.2 (0.4)	No
Doria Park	0	0	No
Mackenzie Park	0	0	No
Mission Viejo High School Sports Fields	0.08(0.2)	0.6 (1.3)	No
Linda Vista Elementary School Sports Fields	0	0	No
Mission Viejo Golf Course	0	1.0 (2.6)	No
Madrid Fore Park	0	0	No
Moulton Ranch Park	0	0	No
Grenada Park	0	0	No
Cabot Park	0	0	No
Capistrano Valley High School Sports Fields	0	0	No
Rancho Capistrano Recreation Fields (Schuller)	0	0.7 (1.8)	No
Proposed Northwest Open Space	0	1.7 (4.1)	No
Serra Park	0	0.08 (0.2)	No
Marbella Golf and Country Club	0	0	No
Stonefield Park and Soccer Field	0	0	No
Serra High School Sports Fields	0	0	No
San Juan Elementary School Sports Fields	0	0	No
Buccheim Fields	0	1.7 (4.1)	No
Historic Town Center Archaeological Park	0	0	No
Descanso Veterans Park	0	0	No
San Juan Hills Country Club	0	0	No
San Juan Capistrano Open Space	0	0	No
Proposed Las Ramblas Park	0	0	No
Proposed Via Canon Park	0	0	No
Palisades Elementary School Sports Fields	0	0	No
Sunset Park	0	0	No
Mira Costa Park	0	0	No

Table 4.25-31
Temporary Occupancy and Permanent Acquisition of Property from Recreation Resources Under the I-5 Alternative

Resource[1]	Area of Temporary Occupancy ha (ac)	Area of Permanent Acquisition ha (ac)	Is Resource Fragmented by Alternative?
Shorecliffs Golf Course	0	0.4 (0.9)	No
Park at Calle Juarez and Calle Guadalajara	0	0	No
San Gorgonio Park	0	0.8 (2.0)	No
Proposed Marblehead Sports Park	0	0	No
Shorecliffs Middle School Sports Fields	0	0	No
San Clemente High School Sports Fields	0	2.0 (4.9)	No
Bonito Canyon Park	0	0	No
Ole Hanson Elementary Sports Fields	0	0.1 (0.3)	No
Verde Park	0	0	No
Proposed Our Lady of Fatima Park	0	0	No
San Clemente Municipal Golf Course	0	0	No
San Clemente State Beach	0	0	No
San Luis Rey Park	0	0	No
Concordia Elementary School Sports Fields	0	0	No
Proposed Concordia Park	0	0	No
Proposed South San Clemente Neighborhood Park (west)	0	0	No
Pacific Golf Club	0	0	No
Proposed South San Clemente Neighborhood Park (east)	0	0	No
SOSB Cristianitos Subunit 1	0	1.1 (2.8)	No

Source: P&D Consultants (2003).
[1] Refer to Figure 4.25-17 for the locations of these resources.

Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the I-5 Widening Alternative

(Page 1 of 2)

Figure 4.25-17

Source: CDMG and P&D Consultants (2003)

Recreation Resources in the Study Area for the I-5 Widening Alternative

(Page 2 of 2)

Figure 4.25-17

Table 4.25-32
Amenities Affected by the Temporary Occupancy and Permanent Acquisition of Property at Recreation Resources Under the I-5 Alternative

Resource[1]	Amenities Affected
Cavanaugh Gowdy Park	Open space.
Aegean Park	Open space, tot lot and play equipment.
Mission Viejo High School Sports Fields	Baseball field, sports field, track and bleachers.
Mission Viejo Golf Course	Part of rough and cart paths.
Rancho Capistrano Recreation Fields (Schuller)	Landscaping.
Proposed Northwest Open Space	Open space.
Serra Park	Open space and landscaping.
Buccheim Fields	Baseball fields, concession stands, restrooms and playground.
Shorecliffs Golf Course	Part of rough.
San Gorgonio Park	Open space.
San Clemente High School Sports Fields	Baseball field and part of track.
Ole Hanson Elementary School Sports Fields	Part of sports field and playground.
SOSB Cristianitos Subunit 1	Part of parking lot.

Source: P&D Consultants (2003).
[1] These are resources identified as potentially affected by the temporary use and/or permanent acquisition of property (Table 4.25-31). Refer to Figure 4.25-17 for the locations of these resources.

Table 4.25-33
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
Cavanaugh Gowdy Park	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Sycamore Park	At its closest point, this resource is 49 m (162 ft) from the centerline, 319 m (1,048 ft) from structures and 2 m (8 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
La Tierra Elementary School Sports Fields	At its closest point, this resource is 366 m (1,200 ft) from the centerline and 452 m (1,483 ft) from structures of this Alternative. Noise: This resource would be subject to adverse pile driving noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Aegean Park	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Doria Park	At its closest point, this resource is 251 m (822 ft) from the centerline and 198 m (649 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. This resource is too far from structures to be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Mackenzie Park	At its closest point, this resource is 346 m (1,134 ft) from the centerline and 456 m (1,496 ft) from structures of this Alternative. Noise: This resource would be subject to adverse pile driving noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Mission Viejo High School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Linda Vista Elementary School Sports Fields	At its closest point, this resource is 386 m (1,265 ft) from the centerline of this Alternative. Noise: Based on its distance from centerline, structures and disturbance limits of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational, construction or pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Mission Viejo Golf Course	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative.
	Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Madrid Fore Park	At its closest point, this resource is 194 m (636 ft) from the centerline, 250 m (821 ft) from structures and 129 m (424 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Moulton Ranch Park	At its closest point, this resource is 401 m (1,315 ft) from the centerline and 352 m (1,155 ft) from structures of this Alternative. Noise: This resource would be subject to adverse pile driving noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
Granada Park	At its closest point, this resource is 165 m (541 ft) from the centerline and 113 m (372 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Cabot Park	At its closest point, this resource is 393 m (1,289 ft) from the centerline and 202 m (661 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction noise impacts from this Alternative. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Capistrano Valley High School Sports Fields	At its closest point, this resource is 127 m (418 ft) from the centerline, 276 m (904 ft) from structures and 60 m (196 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Rancho Capistrano Recreation Fields (Schuller Ministries)	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction and operational noise impacts from this Alternative. This resource is too far from structures to be subject to pile driving noise impacts. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Northwest Open Space	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Serra Park	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Marbella Golf and Country Club	At its closest point, this resource is 92 m (302 ft) from the centerline, 146 m (480 ft) from structures and 28 m (93 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline, structures and disturbance limits of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. This resource would be subject to adverse construction and pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Stone Field Park and Soccer Field	At its closest point, this resource is 389 m (1,276 ft) from the centerline and 354 m (1,160 ft) from structures of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. This resource would be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: Based on the distance of this resource from the centerline and intervening topography and land uses, this Alternative will not result in adverse visual impacts on this recreation resource.
Serra High School Sports Fields	At its closest point, this resource is 398 m (1,306 ft) from the centerline and 366 m (1,200 ft) from structures of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse operational noise impacts on this recreation resource. This resource would be subject to adverse pile driving noise impacts.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
San Juan Elementary School Sports Fields	At its closest point, this resource is 146 m (480 ft) from the centerline, 175 m (573 ft) from structures and 49 m (161 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Buccheim Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Historic Town Center Archaeological Park	At its closest point, this resource is 219 m (718 ft) from the centerline, 222 m (730 ft) from structures and 70 m (230 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Descanso Veterans Park	At its closest point, this resource is 194 m (636 ft) from the centerline, 173 m (569 ft) from structures and 119 m (390 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts due to the operation of the Alternatives. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Juan Hills Country Club	At its closest point, this resource is 112 m (366 ft) from the centerline, 81 m (264 ft) from structures and 57 m (187 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
San Juan Capistrano Open Space and Trails	At its closest point, this resource is 200 m (655 ft) from the centerline, 313 m (1,028 ft) from structures and 70 m (229 ft) from the disturbance limits of this Alternative. Noise: Construction, pile driving and operational noise impacts of this alternative on this resource would not be adverse because the use is open space and therefore does not have frequent human use. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Las Ramblas Park	At its closest point, this resource is 349 m (1,145 ft) from the centerline, 333 m (1,091 ft) from structures and 74 m (243 ft) from the disturbance limits of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed Via Canon Park	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Palisades Elementary School Sports Fields	At its closest point, this resource is 278 m (912 ft) from the centerline of this Alternative. Noise: Based on its distance from centerline, structures and disturbance limits of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational, pile driving or construction noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Sunset Park	At its closest point, this resource is 125 m (411 ft) from the centerline and 26 m (85 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse construction and operational noise impacts from this Alternative. This resource is too far from structures to be subject to pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Mira Costa Park	At its closest point, this resource is 342 m (1,122 ft) from the centerline and 424m (1,392 ft) from structures of this Alternative. Noise: Based on the distance of this resource from the centerline and intervening topography, this Alternative will not result in adverse construction or operational noise impacts on this recreation resource. However, this resource is within range to be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from the centerline of this Alternative and intervening topography, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Shorecliffs Golf Course	This Alternative is within the boundary of this resource. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse operational noise impacts. This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Park at Calle Juarez and Calle Guadalajara	At its closest point, this resource is 162 m (530 ft) from the centerline, 198 m (650 ft) from structures and 98 m (321 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
San Gorgonio Park	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed Marblehead Sports Park	At its closest point, this resource is 123 m (402 ft) from the centerline 111 m (364 ft) from structures and is within the disturbance limits of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Shorecliffs Middle School Sports Fields	At its closest point, this resource is 260 m (854 ft) from the centerline, 158 m (519 ft) from structures and 115 m (376 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
San Clemente High School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Bonito Canyon Park	At its closest point, this resource is 227 m (745 ft) from the centerline, 411 m (1,349 ft) from structures and 136 m (445 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts due to operation. This resource would be subject to adverse pile driving noise impacts and adverse construction noise. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Ole Hanson Elementary School Sports Fields	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse construction, pile driving and operational noise impacts from this Alternative. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
Verde Park	At its closest point, this resource is 223 m (731 ft) from the centerline and 169 m (553 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource is too far from structures to be subject to adverse pile driving noise impacts, but would be subject to adverse construction noise. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed Our Lady of Fatima Park	This Alternative is within the boundary of this resource. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Clemente Municipal Golf Course	At its closest point, this resource is 83 m (273 ft) from the centerline, 65 m (212 ft) from structures and 14 m (47 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource would be subject to adverse construction and pile driving noise impacts from this Alternative. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Clemente State Beach	At its closest point, this resource is 39 m (127 ft) from the centerline, 339 m (1,1,111 ft) from structures and 1 m (3 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
San Luis Rey Park	At its closest point, this resource is 113 m (370 ft) from the centerline and 47 m (154 ft) from disturbance limits of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource is too far from structures to be subject to adverse pile driving noise impacts, but would be subject to adverse construction noise. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Concordia Elementary School Sports Fields	At its closest point, this resource is 124 m (406 ft) from the centerline and 85 m (280 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse operational and construction noise impacts. This resource is too far from structures to be subject to adverse pile driving noise impacts. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed Concordia Park	At its closest point, this resource is 383 m (1,255 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
Proposed South San Clemente Neighborhood Park (west)	At its closest point, this resource is 126 m (412 ft) from the centerline and 82 m (270 ft) from the disturbance limits of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
SOSB Cristianitos Subunit 1	This Alternative is within the boundary of this resource. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Proposed South San Clemente Neighborhood Park (east)	At its closest point, this resource is 335 m (1,100 ft) from the centerline of this Alternative. Noise: This proposed resource would be not subject to adverse operational, pile driving or construction noise impacts from this alternative because it is a proposed resource and the noise standards do not apply. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is anticipated to be provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative is not visible from this resource due to intervening topography or structures. Therefore, this Alternative will not adversely impact views from this recreation resource.
SOSB Trestles Beach Subunit 2	At its closest point, this resource is 35 m (115 ft) from the centerline and 365 m (1,198 ft) from structures of this Alternative. Noise: Based on its distance from centerline of this Alternative, this resource is outside the 66 CNEL contour and would not experience adverse noise impacts. This resource is would be subject to adverse pile driving noise impacts, but would not be subject to adverse construction noise. Air Quality: Considering the proximity of this resource to the centerline of this Alternative, this resource could potentially experience short term air quality impacts during construction of this Alternative. Transportation: Access to this resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this recreation resource.

Table 4.25-33 (continued)
Indirect Impacts on Recreation Resources Under the I-5 Alternative

Resource	Indirect Impacts of the I-5 Alternative
	Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
Creekside Park	At its closest point, this resource is 480 m (1,576 ft) from the centerline, 457 m (1,498 ft) from structures and 160 m (527 ft) from disturbance limits of this Alternative. Noise: This resource would be subject to adverse pile driving and construction noise impacts from this Alternative. Operational impacts of this Alternative on this resource would not be adverse because the noise impacts of this Alternative do not exceed adopted noise thresholds. Air Quality: Based on the distance of this resource from centerline of this Alternative, the construction of this Alternative is not anticipated to result in short term adverse air quality impacts on this resource. Transportation: Access to this planned resource is provided by local streets which will not be adversely impacted during construction and operation of this Alternative. Therefore, this Alternative will not adversely impact access to this planned recreation resource. Visual: This Alternative will result in changes in views from this resource. However, those changes are not adverse because views are not substantially changed from existing conditions.
The following recreation resources are close enough to pile driving activities to experience adverse pile driving noise impacts. They are out of range for any other indirect impacts associated with the I-5 Alternative.	
Clarington Park	This resource is 405 m (1,328 ft) from structures of this Alternative and would be subject to adverse pile driving noise impacts.
Knotty Pine Park	This resource is 470 m (1,545 ft) from structures of this Alternative and would be subject to adverse pile driving noise impacts.
La Paz Middle School Sports Fields	This resource is 379 m (1,246 ft) from structures of this Alternative and would be subject to adverse pile driving noise impacts.
El Camino Real Park	This resource is 443 m (1,453 ft) from structures of this Alternative and would be subject to adverse pile driving noise impacts.

Source: P&D Consultants (2003).

Table 4.25-34
Proposed Status of Mitigation Measures from the Mitigation Monitoring Program in EIR No. 3

Measure 46: Project final design plans shall provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the corridor. The trail crossings shall be designed and constructed according to the standards of Caltrans and applicable local jurisdictions.	This measure has been incorporated in current measures R-5.
Measure 47: In conjunction with final design, the TCA shall coordinate with the County of Orange EMA/Transportation Planning, EMA/Harbors, Beaches and Parks, City of San Clemente, and California Department of Parks and Recreation to minimize potential disruptions to existing and proposed bicycle, riding and hiking trails.	This measure has been incorporated in current measure R-5.
Measure 48: In conjunction with final design, the TCA shall coordinate with the appropriate agencies, including the EMA/Harbors, Beaches and Parks; the California Department of Parks and Recreation; and the City of San Clemente to minimize any visual impacts to parks, recreation, and open space area by using berms, landscaping, vertical separation, and/or other similar techniques	~~Mitigation measures included in the Visual Impact Assessment Technical Report address potential adverse impacts on recreation resources. Refer to the VIA for those measures and their applicability along the alignments of each of the build Alternatives.~~ This measure has been incorporated in current measures R-1 through R-5.

Source: P&D Consultants (2003).

Table 4.25-35
Applicability of Mitigation Measures by Recreation Resource for the FEC-W and FEC-M Alternatives

Name of Resource	Mitigation Measures Applicable by Alternative (See notes below)	
	FEC-W Alternative	FEC-M Alternative
Tesoro High School Sports Fields	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
General Thomas F. Riley Wilderness Park	No mitigation required.	No mitigation required.
Caspers Regional Park	No mitigation required.	No mitigation required.
~~Proposed San Juan Creek Regional Park~~	~~AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.~~	~~AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.~~
The Donna O'Neill Land Conservancy	R-1, R-2, R-3 and R-4. AS-1, AS-2, AS-3 and AS-4.	R-1, R-2, R-3 and R-4. AS-1, AS-2, AS-3 and AS-4.
Talega Community Park	N-1, N-2 and N-4. AS-1, AS-2, AS-3 and AS-4.	N-1, N-2 and N-4. AS-1, AS-2, AS-3 and AS-4.
Pacific Golf Club	N-1, N-2 and N-4.	N-1, N-2 and N-4.
SOSB Cristianitos Subunit 1	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.
Vista Bahia Stadium Park	N-1, N-2 and N-4.	N-1, N-2 and N-4.
San Clemente Municipal Golf Course	N-1, N-2 and N-4.	N-1, N-2 and N-4.
SOSB Trestles Subunit 2	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
MCB Camp Pendleton San Onofre Recreation Beach	N-1, N-2, N-4, N-7, N-8, N-9 and N-10.	N-1, N-2, N-4, N-7, N-8, N-9 and N-10.
SOSB Surfer Beach Subunit 3	I and U: N-1, N-2 and N-4. U: N-7, N-8, N-9 and N-10.	I and U: N-1, N-2 and N-4. U: N-7, N-8, N-9 and N-10.

Source: P&D Consultants (2003).
Notes:
1. Not applicable: This resource does not occur in the vicinity of this Alternative and would not be impacted by this Alternative.
2. No mitigation required: This resource will not be adversely impacted by this Alternative. No mitigation is required.
3. The complete text for measures R-1 to R-5 is provided in Section 4.25.4 (Mitigation Measures Related to Recreation Resources).
4. Construction and operations noise mitigation measures are provided in Section 4.6.
5. Visual impacts mitigation measures are provided in Section 4.18.
6. Air quality impacts construction mitigation is provided in Section 4.7.

Table 4.25-36
Applicability of Mitigation Measures by Recreation Resource for the CC and CC-ALPV Alternatives

Name of Resource	Mitigation Measures Applicable by Alternative (See notes below)	
	CC Alternative	CC-ALPV Alternative
Tesoro High School Sports Fields	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
General Thomas F. Riley Wilderness Park	No mitigation required.	No mitigation required.
Ladera Ranch Open Space	No mitigation required.	No mitigation required.
~~Proposed San Juan Creek Regional Park~~	~~R-1, R-2, R-3 and R-4.~~ ~~AQ-1, AQ-2 and AQ-3.~~ ~~AS-1, AS-2, AS-3 and AS-4.~~	~~R-1, R-2, R-3 and R-4.~~ ~~AQ-1, AQ-2 and AQ-3.~~ ~~AS-1, AS-2, AS-3 and AS-4.~~
San Juan Capistrano Open Space and Trails	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.
Proposed Prima Deshecha Regional Park	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.
Talega Golf Course	N-1, N-2 and N-4.	N-1, N-2 and N-4.
San Clemente High Sports Fields	R-1, R-2, R-3 and R-4. N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.	Not applicable.
Ole Hanson Elementary School Sports Fields	R-1, R-2, R-3 and R-4. N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.	Not applicable.
Verde Park	N-1, N-2 and N-4.	Not applicable.
Bonito Canyon Park	N-1, N-2 and N-4.	Not applicable.
SOSB Cristianitos Subunit 1	R-1, R-2, R-3 and R-4.N-1, N-2 and N-4.	
San Clemente Municipal Golf Course	N-1, N-2 and N-4.	Not applicable.
San Clemente State Beach	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10.	Not applicable.
Proposed South San Clemente Neighborhood Park (east)	No mitigation required.	Not applicable.
Proposed South San Clemente Neighborhood Park (west)	No mitigation required.	Not applicable.
Proposed Our Lady of Fatima Park	AQ-1, AQ-2 and AQ-3.	Not applicable.
Proposed Talega Community Park West	AS-1, AS-2, AS-3 and AS-4.	AS-1, AS-2, AS-3 and AS-4.

Table 4.25-36 (continued)
Applicability of Mitigation Measures by Recreation Resource for the CC and CC-ALPV Alternatives

Name of Resource	Mitigation Measures Applicable by Alternative (See notes below)	
	CC Alternative	CC-ALPV Alternative
Vista Del Mar Elementary and Middle School Sports Fields	N-1, N-2, N-3 and N-4.	N-1, N-2, N-3 and N-4.
Proposed Marblehead Sports Park	No mitigation required.	Not applicable.
Shorecliffs Middle School Sports Fields	No mitigation required.	Not applicable.
Proposed Concordia Park	No mitigation required.	Not applicable.
Concordia Elementary School Sports Fields	N-1, N-2, N-3 and N-4.	Not applicable.
San Luis Rey Park	N-1, N-2 and N-4.	Not applicable.

Source: P&D Consultants (2003).
Notes:
1. Not applicable: This resource does not occur in the vicinity of this Alternative and would not be impacted by this Alternative.
2. No mitigation required: This resource will not be adversely impacted by this Alternative. No mitigation is required.
3. The complete text for measures R-1 to R-5 is provided in Section 4.25.4 (Mitigation Measures Related to Recreation Resources).
4. Construction and operations noise mitigation measures are provided in Section 4.6.
5. Visual impacts mitigation measures are provided in Section 4.18.
6. Air quality impacts construction mitigation is provided in Section 4.7.

Table 4.25-37
Applicability of Mitigation Measures by Recreation Resource for the A7C-ALPV and A7C-FEC-M/Preferred Alternatives

Name of Resource	Mitigation Measures Applicable by Alternative (See notes below)	
	A7C-ALPV Alternative	A7C-FEC-M/Preferred Alternative
Tesoro High School Sports Fields	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
General Thomas F. Riley Wilderness Park	AS-1, AS-2, AS-3 and AS-4.	AS-1, AS-2, AS-3 and AS-4.
Ladera Ranch Open Space	No mitigation required.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~R-1, R-2, R-3 and R-4.~~ ~~AQ-1, AQ-2 and AQ-3.~~ ~~AS-1, AS-2, AS-3 and AS-4.~~	~~R-1, R-2, R-3 and R-4.~~ ~~AQ-1, AQ-2 and AQ-3.~~ ~~AS-1, AS-2, AS-3 and AS-4.~~
Proposed Prima Deshecha Regional Park	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.	No mitigation required.
Talega Golf Course	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.	Not applicable.
Vista Del Mar Elementary and Middle School Sports Fields	N-1, N-2, N-3 and N-4.	Not applicable.
Proposed Talega Community Park West	No mitigation required.	Not applicable.
Talega Swim and Athletic Club	N-1, N-2 and N-4. AS-1, AS-2, AS-3 and AS-4.	Not applicable.
Talega Community Park	Not applicable.	N-1, N-2 and N-4.
Donna O'Neill Land Conservancy	Not applicable.	AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.
Pacific Golf Club	Not applicable.	N-1, N-2, N-4, N-7, N-8, N-9 and N-10.
Proposed South San Clemente Neighborhood Park (east)	Not applicable.	No mitigation required.
San Clemente Municipal Golf Course	Not applicable.	N-1, N-2 and N-4.
SOSB Cristianitos Subunit 1	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3. AS-1, AS-2, AS-3 and AS-4.
Vista Bahia Stadium Park	Not applicable.	N-1, N-2 and N-4.

Table 4.25-37 (continued)
Applicability of Mitigation Measures by Recreation Resource for the A7C-ALPV and A7C-FEC-M/Preferred Alternatives

Name of Resource	Mitigation Measures Applicable by Alternative (See notes below)	
	A7C-ALPV Alternative	A7C-FEC-M/Preferred Alternative
SOSB Trestles Subunit 2	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
MCB Camp Pendleton San Onofre Recreation Beach	Not applicable.	N-1, N-2, N-4, N-7, N-8, N-9 and N-10.
SOSB Surfer Beach Subunit 3	Not applicable.	I and U: N-1, N-2 and N-4. U: N-7, N-8, N-9 and N-10.

Source: P&D Consultants (2003).
Notes:
1. Not applicable: This resource does not occur in the vicinity of this Alternative and would not be impacted by this Alternative.
2. No mitigation required: This resource will not be adversely impacted by this Alternative. No mitigation is required.
3. The complete text for measures R-1 to R-5 is provided in Section 4.25.4 (Mitigation Measures Related to Recreation Resources).
4. Construction and operations noise mitigation measures are provided in Section 4.6.
5. Visual impacts mitigation measures are provided in Section 4.18.
6. Air quality impacts construction mitigation is provided in Section 4.7.

Table 4.25-38
Applicability of Mitigation Measures by Recreation Resource for the AIO and I-5 Alternatives

Name of Resource	Mitigation Measures Applicable By Alternative (See notes below)	
	AIO Alternative	I-5 Alternative
Cavanaugh Gowdy Park	Not applicable.	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3. N-1, N-2 and N-4.
Sycamore Park	Not applicable.	N-1, N-2 and N-4.
La Tierra Elementary School Sports Fields	Not applicable.	N-1, N-2, N-3 and N-4.
Aegean Park	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Doria Park	Not applicable.	N-1, N-2 and N-4.
Mackenzie Park	Not applicable.	N-1, N-2 and N-4.
Mission Viejo High School Sports Fields	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Linda Vista Elementary School Sports Fields	Not applicable.	No mitigation required.
Mission Viejo Golf Course	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Madrid Fore Park	Not applicable.	N-1, N-2 and N-4.
Las Flores Elementary School Sports Field	R-1, R-2, R-3 and R-4. N-1, N-2, N-3 and N-4. AQ-1, AQ-2 and AQ-3.	Not applicable.
O'Neill Regional Park	N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.	Not applicable.
Ladera Ranch Open Space	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.	Not applicable.
Proposed Ladera Ranch Open Space	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.	Not applicable.
Moulton Ranch Park	Not applicable.	N-1, N-2 and N-4.
Cabot Park	Not applicable.	N-1, N-2 and N-4.
Granada Park	Not applicable.	N-1, N-2 and N-4.
Capistrano Valley High School Sports Fields	Not applicable.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
Rancho Capistrano Recreation Fields (Schuller)	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Proposed Northwest Open Space	Not applicable.	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.

Table 4.25-38 (continued)
Applicability of Mitigation Measures by Recreation Resource for the AIO and I-5 Alternatives

Name of Resource	Mitigation Measures Applicable By Alternative (See notes below)	
	AIO Alternative	**I-5 Alternative**
Serra Park	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Marbella Golf and Country Club	Not applicable.	N-1, N-2 and N-4.
Stonefield Park and Soccer Field	Not applicable.	N-1, N-2 and N-4.
Serra High School Sports Fields	Not applicable.	N-1, N-2, N-3 and N-4.
San Juan Elementary School Sports Fields	Not applicable.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
Buccheim Fields	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
~~Proposed San Juan Creek Regional Park~~	~~R-1, R-2, R-3 and R-4.~~ ~~AQ-1, AQ-2 and AQ-3.~~	~~Not applicable.~~
Historic Town Center Archeological Park	Not applicable.	N-1, N-2 and N-4.
Descanso Veterans Park	Not applicable.	N-1, N-2 and N-4.
San Juan Hills Country Club	Not applicable.	N-1, N-2 and N-4.
San Juan Capistrano Open Space and Trails	R-1, R-2, R-3, R-4 and R-5. AQ-1, AQ-2 and AQ-3.	No mitigation required.
Proposed Prima Deshecha Regional Park	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.	Not applicable.
Proposed Las Ramblas Park	Not applicable.	No mitigation required.
Proposed Via Canon Park	Not applicable.	R-1, R-2, R-3 and R-4. AQ-1, AQ-2 and AQ-3.
Palisades Elementary School Sports Field	Not applicable.	No mitigation required.
Sunset Park	Not applicable.	N-1, N-2, N-4, N-7, N-8, N-9 and N-10.
Mira Costa Park	Not applicable.	N-1, N-2 and N-4.
Shorecliffs Golf Club	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
Park at Calle Juarez and Calle Guadalajara	Not applicable.	N-1, N-2 and N-4.
San Gorgonio Park	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
Proposed Marblehead Sports Park	Not applicable.	No mitigation required.
Shorecliffs Middle School Sports Fields	Not applicable.	N-1, N-2, N-3 and N-4.
San Clemente High School Sports Fields	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10. AQ-1, AQ-2 and AQ-3.
Bonito Canyon Park	Not applicable.	N-1, N-2 and N-4.
Ole Hanson Elementary School Sports Fields	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.

Table 4.25-38 (continued)
Applicability of Mitigation Measures by Recreation Resource for the AIO and I-5 Alternatives

Name of Resource	Mitigation Measures Applicable By Alternative (See notes below)	
	AIO Alternative	I-5 Alternative
		AQ-1, AQ-2 and AQ-3.
Verde Park	Not applicable.	N-1, N-2 and N-4.
Proposed Our Lady of Fatima Park	Not applicable.	AQ-1, AQ-2 and AQ-3.
San Clemente Municipal Golf Course	Not applicable.	N-1, N-2 and N-4.
San Clemente State Beach	Not applicable.	N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
San Luis Rey Park	Not applicable.	AQ-1, AQ-2 and AQ-3.
Concordia Elementary School Sports Fields	Not applicable.	N-1, N-2, N-3, N-4, N-7, N-8, N-9 and N-10.
Proposed Concordia Park	Not applicable.	No mitigation required.
Proposed South San Clemente Neighborhood Park (west)	Not applicable.	No mitigation required.
Proposed South San Clemente Neighborhood Park (east)	Not applicable.	No mitigation required.
Pacific Golf Club	N-1, N-2 and N-4.	Not applicable.
SOSB Cristianitos Subunit 1	Not applicable.	R-1, R-2, R-3 and R-4. N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
SOSB Trestles Subunit 2	Not applicable.	N-1, N-2 and N-4. AQ-1, AQ-2 and AQ-3.
Proposed Talega Community Park West	No mitigation required.	Not applicable.
Vista Del Mar Elementary and Middle School Sports Fields	N-1, N-2, N-3 and N-4.	Not applicable.
Talega Golf Course	No mitigation required.	Not applicable.
Creekside Park	Not applicable.	N-1, N-2 and N-4.
Clarington Park	Not applicable.	N-1, N-2 and N-4.
Knotty Pine Park	Not applicable.	N-1, N-2 and N-4.
La Paz Middle School Sports Fields	Not applicable.	N-1, N-2, N-3 and N-4.
El Camino Real Park	Not applicable.	N-1, N-2 and N-4.

Source: P&D Consultants (2003).
Notes:
1. Not applicable: This resource does not occur in the vicinity of this Alternative and would not be impacted by this Alternative.
2. No mitigation required: This resource will not be adversely impacted by this Alternative. No mitigation is required.
3. The complete text for measures R-1 to R-5 is provided in Section 4.25.4 (Mitigation Measures Related to Recreation Resources).
4. Construction and operations noise mitigation measures are provided in Section 4.6.
5. Visual impacts mitigation measures are provided in Section 4.18.
6. Air quality impacts construction mitigation is provided in Section 4.7.

4.26 UNAVOIDABLE ADVERSE IMPACTS

4.26.1 UNAVOIDABLE ADVERSE IMPACTS RELATED TO TRAFFIC

The following SOCTIIP build Alternatives would result in unavoidable adverse impacts related to traffic and circulation which cannot be fully mitigated:

- CC Alternative: deficiencies at one intersection and two 1-5 ramps.
- CC-ALPV Alternative: deficiencies at two I-5 ramps.
- A7C-ALPV Alternative: deficiencies at one intersectional and one I-5 ramp.
- AIO Alternative: deficiencies at five intersections and one I-5 ramp.
- I-5 Alternative: deficiencies at two intersections and three I-5 ramps.

The FEC-M, FEC-W, and A7C-FEC-M/Preferred Alternative will not result in unavoidable adverse impacts related to traffic and circulation that cannot be mitigated.

The SOCTIIP build Alternatives would result in short-term unavoidable adverse impacts related to traffic and circulation which can not be fully mitigated. During the construction related activities, it is possible that some streets may experience substantial short-term degradation in terms of level of service (LOS), congestion and delays.

The No Action Alternative was analyzed with four scenarios providing future "baseline" for the overall traffic analysis in that they portray future conditions in which only committed improvements are built or in which committed plus MPAH/RTP improvements are built but without the extension of existing SR-241. As demonstrated in Section 3.0 (Traffic and Circulation), the regional circulation system will not be adequate to meet traffic demands or applicable performance criteria under any of the four No Action Scenarios. Therefore, the No Action Alternatives will result in unavoidable adverse impacts related to traffic and circulation.

4.26.2 UNAVOIDABLE ADVERSE IMPACTS RELATED TO LAND USE

The following SOCTIIP build Alternatives would result in adverse impacts related to land use which cannot be fully mitigated. For each of these Alternatives, the adverse impact following mitigation would be conflict(s) with an adopted land use plan, plan policy or regulation of an agency with jurisdiction over the project.

- FEC-M Alternative
- FEC-W Alternative.
- CC Alternative.
- CC-ALPV Alternative.
- A7C-ALPV Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.
- AIO Alternative.
- I-5 Alternative.

The two No Action Alternatives will not result in direct or indirect land use impacts because they will not result in the construction of any SOCTIIP related transportation improvements in the study area. The No Action Alternatives are not anticipated to affect planned land uses because the applicable local jurisdictions have required or will require those uses to include sufficient transportation facilities to meet their needs, independent of the SOCTIIP alternatives. It should be noted that impacts related to build out of the RMV – 14,000 du development or OCP-2000 growth assumptions are discussed in Section 6.0.

County of Orange (Rancho Mission Viejo)

It is expected that RMV will develop with or without the SOCTIIP build Alternatives. Any development plan for the RMV is assumed to include sufficient transportation facilities to meet the circulation needs of the plan. Therefore, no unavoidable adverse impacts to future planned land uses on RMV will occur under the SOCTIIP No Action Alternatives.

City of San Clemente

Improvements consistent with the MPAH and the build out of the Champion Hills, Rolling Hills and Forster Ranch PCs will occur in this City under the No Action Alternatives. The No Action Alternatives will not result in unavoidable adverse impacts related to the ability of these projects to continue to develop, consistent with applicable local approvals.

City of San Juan Capistrano

Improvements consistent with the MPAH and the build out of Forster Canyon PC/Pacific Point and the Prima Deshecha Sanitary Landfill GDP will occur in this City under the No Action Alternatives. The No Action Alternatives will not result in unavoidable adverse impacts related to the ability of these projects to develop, consistent with applicable local approvals.

Other Cities

Improvements consistent with the MPAH and other planned development in the other cities in the SOCTIIP study area would continue to occur in these jurisdictions under the No Action Alternatives. The No Action Alternatives will not result in unavoidable adverse impacts related to the ability of these projects to develop, consistent with applicable local approvals.

Camp Pendleton

Improvements on Camp Pendleton in the SOCTIIP study area would continue to occur under the No Action Alternatives. The No Action Alternatives will not result in unavoidable adverse impacts related to the ability of the DON to continue to implement land use on the Base, consistent with the Master Plan and the mission of Camp Pendleton.

San Onofre State Beach

Improvements to SOSB in the SOCTIIP study area would continue to occur under the No Action Alternatives. The No Action Alternatives will not result in unavoidable adverse impacts related to the ability of the California Department of Parks and Recreation to continue to implement land uses in the Park, consistent with the Master Plan and the Department's lease with the United States of America.

4.26.3 UNAVOIDABLE ADVERSE IMPACTS RELATED TO FARMLAND

The following SOCTIIP build Alternatives would result in adverse impacts related to farmland which cannot be fully mitigated. For each of these Alternatives, the adverse impacts following mitigation would be:

- Conversion of farmland to a non-agricultural use.
- Conflict with zoning for agricultural use or Williamson Act contract.
- Changes in the environment which could result in conversion of farmland to a non-agricultural use.

The Alternatives which result in these unavoidable adverse impacts after mitigation are:

- FEC-M Alternative.
- FEC-W Alternative.
- CC Alternative.
- CC-ALPV Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.
- A7C-ALPV Alternative.
- AIO Alternative.

The No Action Alternatives will not result in unavoidable adverse impacts related to farmland.

4.26.4 UNAVOIDABLE ADVERSE IMPACTS RELATED TO SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

The following SOCTIIP build Alternatives would result in adverse impacts related to socioeconomics and environmental justice which cannot be fully mitigated:

CC Alternative: Divide neighborhoods, displace community facilities, result in greater than 1% reduction in property tax and displace commercial uses and lodging rooms impacting sales tax and transit occupancy tax revenues.

I-5 Alternative: Displaces community facilities, results in greater than 1% reduction in property tax and displaces commercial uses and lodging rooms impacting sales tax and transit occupancy tax revenues.

The foregone economic benefits of congestion relief, i.e., the value of time saved and increased economic activity from improved mobility for people, goods and services, will be an unavoidable impact of the No Action Alternative.

4.26.5 UNAVOIDABLE ADVERSE IMPACTS RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

~~The following Alternatives would result in short-term adverse air quality impacts during construction which cannot be fully mitigated:~~

~~FEC-M Alternative.~~
~~FEC-W Alternative.~~
~~CC Alternative.~~
~~CC-ALPV Alternative.~~
~~A7C-FEC-M Alternative.~~
~~A7C-ALPV Alternative.~~

The following Alternatives would result in adverse impacts related to visual resources along pedestrian and bicycle facilities which cannot be fully mitigated:

- FEC-M Alternative.
- FEC-W Alternative.
- CC Alternative.
- CC-ALPV Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.
- A7C-ALPV Alternative.

4.26.6 UNAVOIDABLE ADVERSE IMPACTS RELATED TO NOISE

The I-5 Alternative would result in an unavoidable adverse impact due to demolition noise to nearby residents. None of the SOCTIIP build Alternatives would result in adverse impacts related to operational noise which cannot be fully mitigated. Because the No Action Alternatives will not result in the construction or implementation of SOCTIIP Infrastructure improvements in the study area, the No Action Alternatives will not result in unavoidable adverse impacts related to noise.

4.26.7 UNAVOIDABLE ADVERSE IMPACTS RELATED TO AIR QUALITY

The following Alternatives will have short-term adverse air quality impacts during construction which cannot be fully mitigated:

- FEC-M Alternative.
- FEC-W Alternative.
- CC Alternative.
- CC-ALPV Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.
- A7C-ALPV Alternative.
- AIO Alternative.
- I-5 Alternative.

The following Alternatives would result in adverse operations impacts which cannot be fully mitigated related to NOx that exceed the SCAQMD thresholds:

- FEC-M Alternative:
- FEC-W Alternative:
- CC Alternative.
- CC-ALPV Alternative.
- A7C-ALPV Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.
- AIO Alternative.
- I-5 Alternative.

The No Action Alternative – RMV Development Plan will have unavoidable adverse impacts due to PM10 emissions that exceed the SCAQMD threshold.

The subregional emissions from the SOCTIIP build Alternatives have been compared to the No Action Alternative and to the existing emissions. The determinations of impacts have been based on both of these types of comparisons. Both of these comparisons are necessary because the air environment is not a stagnant situation, but rather will change in future years irrespective of the proposed SOCTIIP. For all cases the subregional/regional emissions will be lower in the future with the build Alternatives. This reduction in emissions is not necessarily attributable to the build Alternatives, but rather the general trend in emissions due to cleaner motor vehicles and tighter controls on other sources. The comparison of the build Alternatives to the No Action Alternatives generally shows a decrease in HC and CO emissions and an increase in NOx and PM10. Therefore, due to the increase in HC and CO emissions, the No Action Alternatives will result in an unavoidable adverse impact related to air quality.

Converse to the SOCTIIP build Alternatives, the No Action Alternatives retain a large number of vehicles on the arterials where the travel speeds are much lower than that for the SOCTIIP Alternatives. Emission rates for HC and CO are higher at these travel speeds 33 kph (20 mph) compared to 100 kph (60 mph) range and result in an increase in emissions compared to the SOCTIIP build Alternatives. This is an environmental impact that results by not moving vehicles more efficiently at higher speeds.

4.26.8 UNAVOIDABLE ADVERSE IMPACTS RELATED TO FLOODPLAINS, WATERWAYS AND HYDROLOGIC SYSTEMS

The SOCTIIP build Alternatives would not result in adverse impacts related to floodplains, waterways and hydrologic systems which cannot be fully mitigated with the project design features (PDFs) implemented to limit these impacts.

The No Action Alternatives will not result in the construction or implementation of SOCTIIP infrastructure improvements in the study area. Therefore, the No Action Alternatives will not result in unavoidable adverse impacts related to floodplains, waterways and hydrologic systems.

4.26.9 UNAVOIDABLE ADVERSE IMPACTS RELATED TO WATER QUALITY

None of the SOCTIIP build Alternatives would result in adverse impacts related to water quality which cannot be fully mitigated.

The No Action Alternatives will not result in the construction or implementation of SOCTIIP infrastructure improvements in the study area. Therefore, the No Action Alternatives will not result in unavoidable adverse impacts related to water quality.

4.26.10 UNAVOIDABLE ADVERSE IMPACTS RELATED TO WETLANDS AND WATERS OF THE UNITED STATES

None of the SOCTIIP build Alternatives would result in adverse impacts related to wetlands and waters of the United States which cannot be fully mitigated.

4.26.11 UNAVOIDABLE ADVERSE IMPACTS RELATED TO WILDLIFE, FISHERIES AND VEGETATION

The following SOCTIIP build Alternatives would result in adverse impacts related to wildlife, fisheries and vegetation which cannot be fully mitigated:

- FEC-W Alternative: Impacts to six plant communities and six plant species.
- FEC-M Alternative: Impacts to six plant communities and six plant species.
- CC Alternative: Impacts to six plant communities and four plant species.
- Preferred Alternative: Impacts to six plant communities and five plant species.
- CC-ALPV Alternative: Impacts to five plant communities and four plant species.
- A7C-FEC-M Alternative: Impacts to six plant communities and five plant species.
- A7C-ALPV Alternative: Impacts to five plant communities and six plant species.
- AIO Alternative: Impacts to four plant communities.
- I-5 Alternative: Impacts to two plant communities.

4.26.12 UNAVOIDABLE ADVERSE IMPACTS RELATED TO THREATENED AND ENDANGERED SPECIES

The following SOCTIIP build Alternatives would result in adverse impacts related to threatened and endangered species which cannot be fully mitigated:

- FEC-W Alternative: Impacts to one plant species, one toad species and one bird species.
- FEC-M Alternative: Impacts to one plant species, one toad species and one bird species.
- CC Alternative: Impacts to one toad species and one bird species.
- CC-ALPV Alternative: Impacts to one toad species and one bird species.
- A7C-FEC-M Alternative: Impacts to one plant species, one toad species and one bird species.
- Preferred Alternative: Impacts to one plant species, one toad species and one bird species.
- A7C-ALPV Alternative: Impacts to one plant species, one toad species and one bird species.
- AIO Alternative: Impacts to one toad species and one bird species.

4.26.13 UNAVOIDABLE ADVERSE IMPACTS RELATED TO WILD AND SCENIC RIVERS

The SOCTIIP study area does not contain wild, scenic or recreational rivers as addressed in the Wild and Scenic Rivers Act or listed in the National Inventory of Wild and Scenic Rivers. Therefore, the construction and operation of any of the SOCTIIP build Alternatives will not result in adverse impacts on wild and scenic rivers. Similarly, the No Action Alternatives will not result in adverse impacts on wild and scenic rivers.

4.26.14 UNAVOIDABLE ADVERSE IMPACTS RELATED TO COASTAL BARRIERS

The SOCTIIP study area does not contain coastal barriers as addressed in the Barrier Resource Act of 1982 or Coastal Barrier Improvement Act of 1990. Therefore, the construction and operation of any of the SOCTIIP build Alternatives will not result in adverse impacts on coastal barriers. Similarly, the No Action Alternatives will not result in adverse impacts on coastal barriers.

4.26.15 UNAVOIDABLE ADVERSE IMPACTS RELATED TO THE COASTAL ZONE

The FEC-W, FEC-M, CC, CC-ALPV, A7C-FEC-W, A7C-FEC-M/Preferred and I-5 Alternatives encroach on the coastal zone and may require a Coastal Development Permit (CDP) (California) and a consistency finding with the CCMP (Federal).

~~If a build Alternative is selected, a~~ A CDP application will be submitted to the CCC for development of the Preferred Alternative. The CDP will address Coastal Zone concerns including biological, cultural and paleontological resources and visual impacts based on impacts and mitigation identified in this EIS/SEIR for the selected alternative.

The No Action Alternatives will not result in unavoidable adverse impacts related to the coastal zone.

4.26.16 UNAVOIDABLE ADVERSE IMPACTS RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

All build alternatives impact known cultural resources. Table 4.16-1 lists each of the archeological sites in the area of disturbance of each alternative and their status relative to the NRHP. As shown in Table 4.16-1, for all alternatives and the 300-foot buffer, there are 18 sites determined to be eligible for the NRHP; 32 sites that have been determined not to be eligible for the NRHP; and 60 sites for which eligibility has not been determined (a total of 110 sites). Seven sites along the San Mateo Drainage in San Diego County and one in Orange County are considered components of the San Mateo Archaeological District (SMAD). The SMAD is considered eligible for listing on the NRHP under Criteria A and D, with its Criterion A eligibility centered on the recognition of SMAD as the ethnographic village of Panhe.

Archaeological sites outside the limits of disturbance and within the buffer area (a 300-foot buffer extending from each disturbance limit) were reviewed to determine whether they would be directly impacted as a result of the project. A total of 113 sites were identified within the study area; of these, 33 are within the buffer area and 77 are within the alternative disturbance limits. Of the sites within the disturbance limits, 18 are recommended as eligible for the NRHP and 25 have been recommended as not eligible for the NRHP. Within the disturbance limits of the Preferred Alternative there are 25 cultural resource sites, of which 14 have been recommended as eligible for the NRHP, 7 have been determined ineligible for the NRHP, and 4 have not had formal determinations of eligibility. For the purposes of this analysis, sites that have not been evaluated are considered eligible for listing on the NRHP.

The nine unevaluated resources were not evaluated at this stage for the following reasons:

CA-ORA-362	Not relocated during field survey. Site appears destroyed by construction and/or erosion.
CA-ORA-912	Coincident boundary with CA-ORA-921/1127, which has been determined eligible. Site considered eligible since sites connect.
CA-ORA-913	Site appears destroyed by Talega Development, although portions may remain beneath placed fill. No report of mitigation available. Adjacent sites (CA-ORA-914 and CA-ORA-915) ineligible and destroyed by Talega Development.
CA-ORA-917	Within the Land Conservancy, permission for invasive excavation not yet granted.
CA-ORA-1028	Per plan, site extends into study area but is outside actual project disturbance limits.
CA-ORA-1106	Within RMV lands, permission for invasive excavation not yet granted. Does not appear to be eligible.
CA-SDI-1074	Near area of the SMAD, assumed eligible as a contributing element of the SMAD for management purposes.
CA-SDI-13324	Near area of the SMAD, assumed eligible as a contributing element of the SMAD for management purposes.

The following SOCTIIP Alternatives would results in potentially substantial adverse impacts related to cultural resources that cannot be fully mitigated:

- A7C-FEC-M: Impacts the SMAD
- FEC-W: Impacts the SMAD and eligible site complex on RMV Lands
- FEC-M: Impacts the SMAD and eligible sites along Christianitos Creek
- A7-ALPV: Impacts eligible historic and archaeological resources along Segunda Deshecha
- AIO: Impacts significant resources within the RMV lands
- CC: Impacts eligible built environment resources and the SMAD
- CC-ALPV: Impacts significant resources within the RMV Lands
- I-5 Alternative: Impacts both historical and archaeological resources, including the SMAD

Build out of the MPAH and the land use assumptions under the No Action Alternatives would be expected to result in adverse impacts related to archaeological and historic resources that may not be fully mitigated. However, the No Action Alternatives will not result in unavoidable adverse impacts to archaeological and historic resources because they do not propose construction or implementation of any SOCTIIP infrastructure improvements in the study area.

4.26.17 UNAVOIDABLE ADVERSE IMPACTS RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTE SITES

None of the SOCTIIP build Alternatives would result in adverse impacts related to hazardous materials and hazardous wastes which cannot be mitigated. The No Action Alternatives will not result in unavoidable adverse impacts related to hazardous materials and hazardous waste.

4.26.18 UNAVOIDABLE ADVERSE IMPACTS RELATED TO VISUAL RESOURCES

The following SOCTIIP build Alternatives would result in adverse impacts related to visual resources which cannot be fully mitigated:

- FEC-M Alternative: Reduction in visual quality of 1.0 point or more from three view locations, reduction in visual quality of one view location and conflict with jurisdictional visual resources.
- FEC-W Alternative: Reduction in visual quality of 1.0 point or more from three view locations, reduction in visual quality of one view location and conflict with jurisdictional visual resources policies.
- CC Alternative: Reduction in visual quality of 1.0 point or more from two view locations and conflict with jurisdictional visual resources policies.
- CC-ALPV Alternative: Reduction in visual quality of 1.0 point or more from one view location and conflict with jurisdictional visual resources policies.
- A7C-ALPV Alternative: Reduction in visual quality of 1.0 point or more from three view locations, reduction in view quality of one regionally outstanding view and conflict with jurisdictional visual resources policies.
- A7C-FEC-M Alternative: Reduction in visual quality of 1.0 point or more from seven view locations, reduction in view quality of one regionally outstanding view, and conflict with jurisdictional visual resources policies.
- Preferred Alternative: Reduction in visual quality of 1.0 point or more from seven view locations, reduction in view quality of one regionally outstanding view, and conflict with jurisdictional visual resources policies.
- AIO Alternative: Reduction in visual quality of 1.0 point or more from two view locations and conflict with jurisdictional visual resources policies.
- I-5 Alternative: Reduction in visual quality of 1.0 point or more from view locations.

There will be no unavoidable adverse visual impacts associated with the No Action Alternatives because all of the visual changes are related to background road and land use assumptions, as the No Action Alternatives do not include the construction or operation of any SOCTIIP transportation improvements.

4.26.19 UNAVOIDABLE ADVERSE IMPACTS RELATED TO ENERGY

None of the SOCTIIP build Alternatives would result in adverse impacts related to energy which cannot be fully mitigated. The No Action Alternatives will not result in unavoidable adverse impacts related to energy.

4.26.20 UNAVOIDABLE ADVERSE IMPACTS RELATED TO EARTH RESOURCES

The following SOCTIIP build Alternatives would result in adverse impacts related to earth resources which cannot be fully mitigated. For each of these Alternatives, the adverse impact following mitigation would be the permanent lowering of the groundwater level at a mapped spring.

- FEC-W Alternative
- FEC-M Alternative
- CC Alternative

- CC-ALPV Alternative
- A7C-FEC-M Alternative/Preferred Alternative.
- A7C-ALPV Alternative
- AIO Alternative
- I-5 Alternative

The No Action Alternatives will not result in unavoidable adverse impacts related to earth resources.

4.26.21 UNAVOIDABLE ADVERSE IMPACTS RELATED TO MILITARY USES

The following SOCTIIP build Alternatives would result in adverse impacts related to military uses which cannot be fully mitigated:

- FEC-W Alternative: Permanent and temporary loss of land available for military training which would be adverse impacts on the Military Mission at MCB Camp Pendleton.
- FEC-M Alternative: Permanent and temporary loss of land available for military training which would be adverse impacts on the Military Mission at MCB Camp Pendleton.
- A7C-FEC-M Alternative: Permanent and temporary loss of land available for military training which would be adverse impacts on the Military Mission at MCB Camp Pendleton.
- Preferred Alternative: Permanent and temporary loss of land available for military training which would be adverse impacts on the Military Mission at MCB Camp Pendleton.

The No Action Alternatives will not result in the construction or implementation of SOCTIIP infrastructure improvements in the study area. Therefore, the No Action Alternatives will not result in unavoidable adverse impacts related to military uses.

4.26.22 UNAVOIDABLE ADVERSE IMPACTS RELATED TO MINERAL RESOURCES

None of the SOCTIIP build Alternatives would result in adverse impacts related to mineral resources which cannot be fully mitigated.

The No Action Alternatives will not result in the construction of any SOCTIIP related transportation improvements and would not reduce the availability of mineral resources. Therefore, the No Action Alternatives will not result in unavoidable adverse impacts related to mineral resources.

4.26.23 UNAVOIDABLE ADVERSE IMPACTS RELATED TO PALEONTOLOGICAL RESOURCES

None of the SOCTIIP build Alternatives would result in adverse impacts related to paleontological resources which cannot be fully mitigated.

Build out of the MPAH and the land use assumptions under the No Action Alternatives will result in adverse impacts on paleontological resources. However, the No Action Alternatives will not result in unavoidable adverse impacts on paleontological resources because they do not propose construction or implementation of any SOCTIIP infrastructure improvements in the study area.

4.26.24 UNAVOIDABLE ADVERSE IMPACTS RELATED TO PUBLIC SERVICES AND UTILITIES

The following SOCTIIP build Alternatives would result in adverse impacts related to public services and utilities which cannot be fully mitigated:

- FEC-W Alternative: Permanent acquisition of a percolation pond on MCB Camp Pendleton for an EDBs.
- FEC-M Alternative: Permanent acquisition of a percolation pond on MCB Camp Pendleton for an EDBs.
- CC Alternative: Generation and disposal of excess soil and rock material (Ultimate only); reduction in capacity and lifespan of Prima Deshecha Landfill (Ultimate only); temporary loss of use of part of the sports facilities at San Clemente High and play area at Ole Hanson Elementary Schools; permanent acquisition of property at San Clemente High and Ole Hanson Elementary Schools.
- CC-ALPV Alternative: Reduction in capacity and lifespan of Prima Deshecha Landfill.
- A7C-ALPV Alternative: Reduction in capacity and lifespan of Prima Deshecha Landfill.
- A7C-FEC Alternative: Permanent acquisition of a percolation pond on MCB Camp Pendleton for an EDBs.
- Preferred Alternative: Permanent acquisition of a percolation pond on MCB Camp Pendleton for an EDBs.
- AIO Alternative: Generation and disposal of excess soil and rock material; reduction in capacity and lifespan of Prima Deshecha Landfill; temporary loss of use of school land and permanent acquisition of playing fields at Las Flores Elementary School.
- I-5 Alternative: Generation and disposal of excess soil and rock material; temporary loss of use of school land and permanent acquisition of playing fields/school property at Saint George's Episcopal Academy, Mission Viejo High, Rancho Capistrano, San Clemente High, and San Juan Elementary Schools; temporary use and permanent acquisition of property at Laguna Hills City Hall, San Clemente Post Office and Buccheim Fields.

The No Action Alternatives will not result in the construction or implementation of SOCTIIP infrastructure improvements in the study area. Therefore, the No Action Alternatives will not result in unavoidable adverse impacts related to public services and utilities. However, the No Action alternatives would not have the positive effect related to emergency evacuation of increasing the speed at which evacuations could be completed because these No Action Alternatives would not provide an alternate evacuation route should I-5 become impassable for some reason.

4.26.25 UNAVOIDABLE ADVERSE IMPACTS RELATED TO RECREATION RESOURCES

The following SOCTIIP build Alternatives would result in adverse impacts related to recreation resources which cannot be fully mitigated.

- FEC-W Alternative
  - Short-term noise impacts on three existing recreation resources and one proposed recreation resource (if proposed recreation resource is operational during construction).
  - Short-term and operational noise impacts on three existing recreation resources.

- Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual impacts on one existing and three proposed recreation resources.
- Short-term and operational noise impacts, short-term air quality impacts and long-term visual impacts to two existing recreation resources.

- FEC-M Alternative
  - Short-term noise impacts on three existing recreation resources and one proposed recreation resource (if proposed recreation resource is operational during construction).
  - Short-term and operational noise impacts on three existing recreation resources.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual impacts on one existing and two proposed recreation resources.
  - Short-term and operational noise impacts, short-term air quality impacts and long-term visual impacts to two existing recreation resources.
  - Long-term visual impacts to one recreation resource.
- CC Alternative
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual quality impacts on four proposed recreation resources.
  - Short-term noise impacts on eight existing recreation resources.
  - Short-term air quality impacts (if proposed recreation resource is operational during construction) on one proposed and one existing recreation resource.
  - Long-term visual quality impact on two proposed recreation resources.
  - Short-term noise, short-term air quality and temporary use and permanent acquisition of property of two existing recreation resources.
- CC-ALPV Alternative
  - Short-term noise impacts on one existing recreation resources.
  - Short-term and operational noise impacts on one existing recreation resource.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual impacts on two proposed recreation resources.
  - Short-term air quality impacts on one existing recreation resource.
  - Long-term visual impacts on two proposed recreation resources.
- A7C-ALPV Alternative
  - Short-term noise impacts on one existing recreation resources.
  - Short-term and operational noise impacts on one existing recreation resource.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual impacts on one proposed recreation resource.
  - Short-term air quality impacts on one existing and one proposed recreation resource.
  - Long-term visual impacts on two proposed recreation resources.

- Short-term and operation noise impacts, short-term air quality and long-term visual impacts on one existing recreation resource.

- A7C-FEC-M Alternative
  - Short-term noise impacts on three existing recreation resources and one proposed recreation resource (if proposed recreation resource is operational during construction).
  - Short-term and operational noise impacts on three existing recreation resources.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) and long-term visual impacts on one existing and three proposed recreation resources.
  - Short-term and operational noise impacts, short-term air quality impacts and long-term visual impacts to two existing recreation resources.

- Preferred Alternative
  - Short-term noise impacts on three existing recreation resources and one proposed recreation resource (if proposed recreation resource is operational during construction).
  - Short-term and operational noise impacts on three recreation resources.
  - Short-term air quality impacts (if proposed resources are operational during construction) and long-term visual impacts on one existing and three proposed recreation resources.
  - Short-term and operational noise impacts; short-term air quality impacts and long-term visual impacts to two recreation resources.

- AIO Alternative
  - Short-term noise and short-term air quality impacts on two existing recreation resources.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) on six proposed recreation resources and two existing.
  - Short-term noise impacts on one existing recreation resource.

- I-5 Alternative
  - Short-term noise and short-term air quality impacts on 13 existing recreation resources.
  - Short-term air quality impacts (if proposed recreation resources are operational during construction) on five proposed and four existing recreation resources.
  - Short-term noise impacts on 30 existing recreation resources.
  - Operational noise, short-term noise and short-term air quality impacts on one existing recreation resource.

No Action Alternative - OCP-2000

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any additional SOCTIIP related transportation improvements. Therefore, the No Action Alternative-OCP-2000 will not result in unavoidable adverse construction impacts to any recreation resources.

No Action Alternative - RMV

This No Action Alternative assumes implementation of adopted MPAH and RTP improvements in this part of Orange County, but does not assume any SOCTIIP related transportation additional improvements. Therefore, the No Action Alternative-RMV will not result in unavoidable adverse construction impacts to any recreation resources.

4.27 THE RELATIONSHIP BETWEEN LOCAL AND SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

4.27.1 METHODOLOGY

The relationship between local short-term uses of our environment and the enhancement of its long-term productivity under the proposed Alternatives is a required topic of discussion in an EIR/EIS under both CEQA and NEPA. The SOCTIIP would result in benefits and gains as well as costs and impacts. This Section evaluates the short-term use of the environment in relation to adverse effects on the maintenance or enhancement of long-term productivity.

The Caltrans Environmental Handbook – Volume I (1995) requires a summary of any tradeoffs caused by a proposed project that would lead to short-term (economic) gains at the expense of long-term (natural) productivity. The build Alternatives project will result in benefits as demonstrated in more detail later in this Section. Concurrently, there will usually be costs, side effects and loss of natural resources that have long-term productive value associated with project development. For this discussion, short-term and long-term relate to the time frame for environmentally significant consequences of the proposed action.

Short-term and long-term uses include such benefits as improved transportation, better safety, better public services and more efficient economic activities. These benefits have been recognized for several years, as reflected in the build Alternatives inclusion in the MPAH and regional plans. Short-term uses also include such costs as construction materials consumed, impacted natural resources, disrupted community or economic activities, and removal of existing homes or businesses. Long-term productivity refers to valuable uses for the existing environment (e.g., circulation system, agricultural land, socioeconomics, environmental resources or existing urban living and working places).

The beneficial effects and direct and indirect impacts for each Alternative was obtained from the SOCTIIP Traffic and Circulation Technical Report (Austin Foust, 2003). Build out of the circulation system with 14,000 du proposed for RMV was assumed for each Alternative.

Sources used to obtain data for analysis include: SOCTIIP Traffic and Circulation Technical Report (Austin Foust, 2003), SOCTIIP Natural Environment Study (P&D Consultants), SOCTIIP Project Alternatives Technical Report (P&D Consultants, 2003), SOCTIIP Socioeconomics and Growth Inducing Impacts Technical Report (P&D Consultants, 2003), SOCTIIP Relocation Technical Report (P&D Consultants, 2003), SOCTIIP Right of Way Cost Estimates Technical Report (P&D Consultants, 2003), SOCTIIP Land Use Technical Report (P&D Consultants, 2003).

4.27.2 ANALYSIS

This Section focuses on the short-term benefits, short-term costs/impacts and long-term productivity related to circulation system impacts for each SOCTIIP Alternative. Table 4.27-1 summarizes the benefits and impacts resulting from each Alternative. Tables cited in this Section are provided following the last page of text in this Section.

4.27.2.1 Far East Corridor-West Alternative

Short-Term Benefits

Short-term benefits that would result from the FEC-W Alternative relate generally to improved traffic flow and reduced congestion due to the availability of an alternative travel route in South Orange County.

Time spent commuting would decrease with travel time savings for the proposed RMV plan of 20,000 hr/day and 34,000 hr/day for OCP-2000, compared to the No Action Alternatives in 2025. The addition of a new travel route will also increase safety.

The FEC-W Alternative would result in substantially fewer arterial intersection and I-5 mainline deficiencies compared to the No Action Alternatives. The FEC-W Alternative is forecast to have a beneficial effect at a substantial number of locations including I-5 mainline segments, arterial intersections and freeway/tollway ramps.

There would be an increase in short-term construction jobs (17,000 jobs for the Initial and 21,000 jobs for the Ultimate) associated with this Alternative. Over the long-term, there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs, generated by this Alternative.

Short-Term Costs/Impacts

The construction cost of the FEC-W Alternative is estimated at approximately $637 million for the Initial and $798 million for Ultimate. The costs for construction were developed by the TCA (2002). Land acquisition costs are estimated at $68 million for the FEC-W Initial and $72 million for the FEC-W Ultimate. The land acquisition costs are from the ROW Cost Estimates Study (P&D Consultants, 2003). These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts of the FEC-W Alternative to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction and operational noise, loss of visual quality and increased energy use with mitigation measures designed to reduce those impacts. Subsurface conditions on site indicate a potential for liquefaction and landslides along the FEC-W Alternative at the I-5 connector. Directly impacted riparian ecosystem include 16 ha (39 ac) for the Initial and 16 ha (40 ac) for the Ultimate. The Alternative would result in 12 km (8 mi) of directly impacted waters of the US for the Initial and 13 km (8 mi) for the Ultimate. Impacted plant communities resulting from construction of the FEC-W Alternative include 444 ha (1,097 ac) for the Initial and 462 ha (1,141 ac) for the Ultimate. Mitigation will reduce some of these impacts.

No direct adverse traffic impacts are forecast to occur under the FEC-W Alternative. However, indirect adverse impacts are forecast to occur at four I-5 ramps. The indirect impacts occur because the FEC-W Alternative divert traffic from I-5 ramps, thereby reducing the level of congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 now chooses to use I-5, resulting in additional traffic at some of the ramps and ramp intersections serving I-5. It is this additional traffic that causes indirect adverse impacts to occur under the FEC-W Alternative.

The FEC-W Alternative would displace 32 ha (78 ac) of rated agricultural land (Natural Resource Conservation Service (NRCS)) and 109 ha (269 ac) of agricultural reserves (Williamson Act) for the Initial and 32 ha (80 ac) of rated agricultural land and 111 ha (275 ac) of agricultural reserves for the Ultimate, as stated in Table 4.3-3 Summary of Impacts Mitigation Measures and Level of Significance after Mitigation Related to Farmland Impacts in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Farmland).

Long-Term Productivity

The FEC-W Alternative would convert agricultural land to a transportation corridor use. However, mitigation measures provided in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Agricultural Resources) would reduce some of this impact on agricultural land.

The FEC-W Alternative would add approximately 26 km (16 mi) of road and an additional 4.6 km (2.9 mi) of improvements on I-5. This would change the circulation system in the study area, with the added road making some traffic movements more efficient and safer with improved access. This Alternative would also provide a travel time savings of 20,000 hr/day for the proposed RMV plan and 34,000 hr/day for OCP-2000 (RMV at 21,000 dus).

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the FEC-W Alternative. This Alternative has a large number of benefits and also a large number of impacts. The cost of building this Alternative is high but the time savings on the road is also high.

4.27.2.2 Far East Corridor-Modified Alternative

Short-Term Benefits

Short-term benefits that would result from the FEC-M Alternative relate generally to improved traffic flow and reduced congestion due to the availability of an alternative travel route in South Orange County. Time spent commuting would decrease with travel time savings for the proposed RMV plan of 20,000 hr/day and 34,000 hr/day for OCP-2000, compared to the No Action Alternatives in 2025. The addition of a new travel route will also increase safety.

The FEC-M Alternative would result in substantially fewer arterial intersection and I-5 mainline deficiencies compared to the No Action Alternatives. The FEC-M Alternative is forecast to have a beneficial effect at a substantial number of locations including I-5 mainline segments, arterial intersections and freeway/tollway ramps.

There would be an increase in short-term construction jobs (19,000 jobs for the Initial and 23,000 jobs for Ultimate) associated with this Alternative. Over the long-term, there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs, generated by this Alternative.

Short-Term Costs/Impacts

The construction cost of the FEC-M Alternative is estimated at approximately $696 million for the Initial and $842 million for the Ultimate. The costs for construction were developed by the TCA (2002). Land acquisition costs are estimated at $66 million for the Initial and $69 million for the Ultimate of the FEC-M Alternative. The land acquisition costs are from the ROW Cost Estimates Study (P&D Consultants, 2003). These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts of the FEC-M Alternative to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use with mitigation measures designed to reduce those impacts. Subsurface conditions on site indicate a potential for liquefaction and landslides along the FEC-M Alternative at the I-5 connector. Directly impacted riparian ecosystem include 19.8 ha (49 ac) for the Initial and 21.6 ha (53.4 ac) for the Ultimate. The Alternative would result in 15.0 km (9.3 mi) of directly impacted waters of the US for the Initial and 15.9 km (11.3 mi) for the Ultimate. Impacted plant communities resulting from construction of the FEC-M Alternative include 459 ha (1,133 ac) for the Initial and 486 ha (1,200 ac) for the Ultimate. Mitigation will reduce some of these impacts.

No direct adverse traffic impacts are forecast to occur under the FEC-M Alternative. However, indirect adverse impacts are forecast to occur at four I-5 ramps. The indirect impacts occur because the FEC-M Alternative diverts traffic from I-5 ramps, thereby reducing the level of congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 now chooses to use I-5, resulting in additional traffic at some of the ramps and ramp intersections serving I-5. It is this additional traffic that causes indirect adverse impacts to occur under the FEC-M Alternative.

The FEC-M Alternative would displace 21 ha (53 ac) of rated agricultural land (NRCS) and 123 ha (307 ac) of agricultural reserves (Williamson Act) for the Initial and 24 ha (58 ac) of rated agricultural land and 133 ha (328 ac) of agricultural reserves for the Ultimate, as stated in Table 4.3-3 Summary of Impacts Mitigation Measures and Level of Significance after Mitigation Related to Farmland Impacts in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Farmland).

Long-Term Productivity

The FEC-M Alternative would convert agricultural land to a transportation corridor use. However, mitigation measures provided in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Agricultural Resources) would reduce some of this impact on agricultural land.

The FEC-M Alternative would add approximately 26 km (16 mi) of road and an additional 1.3 km (0.8 mi) of improvements on I-5. This would change the circulation system in the study area, with the added road making some traffic movements more efficient and safer with improved access. This Alternative would also provide a travel time savings of 20,000 hr/day for the proposed RMV plan and 34,000 hr/day for OCP-2000.

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the FEC-M Alternative. This Alternative has a large number of benefits and also a large number of impacts. The cost of building this Alternative is high but the time savings on the road is also high.

4.27.2.3 Central Corridor – Complete Alternative

Short-Term Benefits

Short-term benefits that would result from the CC Alternative relate generally to improved traffic flows and reduced congestion due to the availability of an alternative travel route in South Orange County. Time spent commuting would decrease with travel time savings for the proposed RMV plan of 18,000 hr/day and of 26,000 hr/day for OCP-2000 compared to the No Action Alternatives in 2025. The addition of a new travel route will also increase safety.

The CC Alternative is forecast to have a beneficial effect at a substantial number of locations, including I-5 mainline segments, arterial intersections and freeway/tollway ramps. Also, the CC Alternative results in substantially fewer arterial intersections and I-5 mainline segments deficiencies compared to the No Action Alternatives.

There would be an increase in short-term construction jobs (23,000 jobs for the Initial and 31,000 jobs for the Ultimate) associated with this Alternative. Over the long-term, there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs generated by the CC Alternative.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $703 million for the Initial and $944 million for the Ultimate. Land acquisition costs are estimated at $419 million for the Initial and $435 million for the Ultimate. These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. Directly impacted riparian ecosystems comprise 21.5 ha (53.7 ac) for the Initial and 24.1 ha (60.2 ac) for the Ultimate. The Alternative would result in 16.5 km (10.3 mi) of directly impacted waters of the US for the Initial and 18.1 km (11.3 mi) for the Ultimate. Impacted plant communities resulting from construction of the CC Alternative include 491 ha (1,213 ac) for the Initial and 528 ha (1,304 ac) for the Ultimate. Mitigation will reduce some impacts.

The number of deficient freeway/tollway ramps is similar for the CC and No Action Alternatives because of direct adverse traffic impacts that occur at the I-5/Avenida Pico interchange and indirect adverse impacts that occur at various I-5 ramps under the CC Alternative. The indirect impacts occur because the CC Alternative diverts traffic from I-5, thereby reducing congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 now chooses to use I-5, resulting in additional traffic at some of the ramps and ramp intersections serving I-5. It is this additional traffic that causes indirect adverse impacts to occur under the CC Alternative.

The CC Alternative would displace 593 housing units and 1,380 persons for the Initial and 602 housing units and 1,405 persons under the Ultimate. This Alternative would also each displace 106 uses, 89 of which are commercial uses in the City of San Clemente and 1,100 employees.

The CC Alternative would displace 18 ha (43 ac) of rated agricultural land (NRCS) and 84 ha (208 ac) of agricultural reserves (Williamson Act) for the Initial and 22 ha (53 ac) of rated agricultural land and 110 ha (272 ac) of agricultural reserves for the Ultimate, as stated in Table 4.3-3 Summary of Impacts Mitigation Measures and Level of Significance after Mitigation Related to Farmland Impacts in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Farmland).

Long-Term Productivity

The CC Alternative would convert agricultural land to a transportation corridor use. However, mitigation measures provided in Section 4.3.4 would reduce some of these impacts on agricultural land.

This Alternative would convert residences and businesses to a transportation corridor use. There are sufficient sites in the study area for the relocation of these displaced uses.

The CC Alternative would add approximately 19 km (12 mi) of roadway, with approximately 4.6 km (2.9 mi) of improvements on I-5. This would change the circulation system in the study area, with the added road making some traffic movements more efficient and safer with improved access. This Alternative would also provide a travel time savings of 18,000 hr/day for the RMV plan and 26,000 hr/day for OCP-2000.

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the CC Alternative. This Alternative has a large number of benefits and a larger number of impacts. In addition to the benefits associated with

intersection efficiency, public safety and travel time savings, this Alternative would result in impacts due to cost and the large displacement of people and agricultural land.

4.27.2.4 Central Corridor-Avenida La Pata Variation Alternative

Short-Term Benefits

Short-term benefits that would result from the CC-ALPV Alternative relate generally to improved traffic due to the availability of an alternative travel route in South Orange County. Time spent commuting would decrease with travel time savings of 8,000 hr/day for the Initial and Ultimate (assuming RMV plan and MPAH/RTP build out) compared to the No Action Alternatives.

The CC-ALPV Alternative is forecast to have a beneficial effect at a number of locations, including I-5 mainline segments, arterial intersections and I-5 ramps. The CC-ALPV Alternative also moderately reduces the number of deficient arterial intersections and I-5 mainline segments compared to the No Action Alternatives.

There would be an increase in short-term construction jobs (15,000 jobs for the Initial and 18,000 jobs for the Ultimate) associated with this Alternative. Over the long-term, there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs generated by the CC-ALPV Alternative.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $457 million for the Initial and $560 million for the Ultimate. Land acquisition costs are estimated at $55 million for the Initial and $68 million for the Ultimate. These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. Directly impacted riparian ecosystem include 20.2 ha (49.9 ac) for the Initial and 23.2 ha (57.4 ac) for the Ultimate. Impacted plant communities resulting from construction of the CC-ALPV Alternative include 324 ha (800 ac) for the Initial and 370 ha (913 ac) for the Ultimate. The Alternative would result in 13.5 km (8.4 mi) of directly impacted waters of the US for the Initial and 15.0 km (9.3 mi) for the Ultimate. Impacted plant communities resulting from construction of the CC-ALPV Alternative include 324 ha (800 ac) for the Initial and 370 ha (913 ac) for the Ultimate. Mitigation will reduce some of these impacts.

The number of deficient freeway/tollway ramps is similar for the CC-ALPV Alternative and the No Action Alternatives because of direct adverse traffic impacts that occur at the I-5/Avenida Pico interchange and indirect adverse impacts that occur at various I-5 ramps under the CC-ALPV Alternative. The indirect impacts occur because the CC-ALPV Alternative divert traffic from I-5, thereby reducing congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 now chooses to use I-5, resulting in additional traffic at some of the ramps and ramp intersections serving I-5. It is this additional traffic that causes indirect adverse impacts to occur under the CC-ALPV Alternative.

Under the CC-ALPV Alternative, direct adverse traffic impacts are projected to occur at two intersection locations in San Clemente and at two I-5/Avenida Pico interchange ramps. Indirect adverse impacts are forecast to occur at three I-5 ramps under the CC-ALPV Alternative.

The CC-ALPV Alternative would displace two housing units and seven persons for the Initial and 14 housing units and 44 persons under the Ultimate.

The CC-ALPV Alternative would displace 18 ha (43 ac) of rated agricultural land (NRCS) and 84 ha (208 ac) of agricultural reserves for the Initial and 22 ha (53 ac) of rated agricultural land and 110 ha (272 ac) of agricultural reserves for the Ultimate.

Long-Term Productivity

The CC-ALPV Alternative would acquire agricultural land and take it out of production. However, mitigation measures provided in Section 4.3.4 would substantially reduce these impacts on agricultural land.

This Alternative would acquire residences, as described previously. There are sufficient sites in the study area for the relocation of these displaced people.

The CC-ALPV Alternative would add approximately 14 km (9 mi) of road. This would change the circulation system in the study area, with the added road making some traffic movements more efficient. This Alternative would also provide a travel time savings of 8,000 hr/day (assuming the RMV plan and MPAH/RTP build out).

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the CC-ALPV Alternative. This Alternative has a large number of benefits and also a large number of impacts. The cost of building this Alternative is moderate compared to the other Alternatives. Also, the time savings on the roadway are moderate.

4.27.2.5 Alignment 7 Corridor Far East Crossover – Modified Alternative

Short-Term Benefits

As stated in Section 2.2, the A7C-FEC-M Alternative alignment evaluated in the Draft EIS/SEIR was refined in order to minimize environmental impacts and address engineering requirements. The A7C-FEC-M Alternative with the design modifications was selected as the Preferred Alternative. The design modifications incorporated into the Alternative do not substantially alter the location of the alignment or project impacts. All utility relocations will occur within the designated disturbance limits for the Preferred Alternative. The relationship between local short-term uses of our environment and the enhancement of its long-term productivity for the Preferred Alternative is the same as that of the A7C-FEC-M Alternative, except as noted below.

Short-term benefits that would result from the A7C-FEC-M/Preferred Alternative relate generally to improved traffic due to the availability of an alternative travel route in South Orange County. Time spent commuting would decrease with travel time savings for the proposed RMV plan of 21,000 hr/day and of 25,000 hr/day for OCP – 2000 compared to the No Action Alternatives.

The A7C-FEC-M/Preferred Alternative are forecast to have a beneficial effect at a number of locations, including I-5 mainline segments, arterial intersections and I-5 ramps. The A7C-FEC-M/Preferred Alternative also moderately reduces the number of deficient arterial intersections and I-5 mainline segments compared to the No Action Alternatives.

There would be an increase in short-term construction jobs (17,000 jobs for the Initial and 21,000 jobs for the Ultimate) associated with this Alternative. The Preferred Alternative is proposed as an initial corridor only; therefore, there would be an increase in short-term construction jobs (approximately 17,000) associated with the Alternative. Over the long-term there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs generated by the A7C-FEC-M/Preferred Alternative.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $645 million for the Initial and $800 million for the Ultimate. Land acquisition costs are estimated at $70 million for the Initial and $73 million for the Ultimate. These costs are in addition to the cost of constructing this Alternative. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial corridor alternative. The Preferred Alternative will be a maximum of six lanes. The construction cost of the Preferred Alternative is estimated to be approximately $805 million. Land acquisition costs, in addition to the cost of construction, are estimated to be $70 million.

Potential short-term impacts to the environment for both the A7C-FEC-M/Preferred Alternative include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. For the A7C-FEC-M Alternative, the ~~D~~directly impacted riparian ecosystem includes 17.4 ha (42.9 ac) for the Initial and 18.5 ha (45.6 ac) for the Ultimate. The Alternative would result in 14.3 km (8.9 mi) of directly impacted waters of the US for the Initial and 15.0 km (9.3 mi) for the Ultimate. Impacted plant communities resulting from construction of the A7C-FEC-M Alternative include 447 ha (1,103 ac) for the Initial and 464 ha (1,145 ac) for the Ultimate. Mitigation will reduce some of these impacts.

The Preferred Alternative selected by TCA is a refined alignment based on the initial configuration of the A7C-FEC-M corridor alternative. For this reason, the long-term impacts to riparian ecosystems, waters of the U.S., and sensitive plants and wildlife resulting from implementation of the Preferred Alternative are generally similar to those of the A7C-FEC-M-Initial Alternative. Glenn Lukos Associates, Inc (GLA) prepared an addendum to the Jurisdictional Determination and Wetlands' Delineating Technical Assessment in September 2005. The Addendum provides additional impact analysis for the Preferred Alternative and is provided as Attachment 12 to the Response to Comments Document. The Preferred Alternative will permanently impact approximately 6.27 acres subject to Corps jurisdiction. This total consists of 0.82 acre of wetland and 5.45 acres of non-wetland waters. The Preferred Alternative will permanently impact 23.08 acres subject to CDFG jurisdiction. This total consists of 20.37 acres of vegetated riparian habitat and 2.71 acres of unvegetated streambed. The Preferred Alternative will impact 479.61 ha (1,185.15 ac) of plant communities. Mitigation will reduce some of these impacts.

No direct adverse traffic impacts are forecast to occur under the A7C-FEC-M/Preferred Alternative. However, indirect adverse impacts are forecast to occur at four I-5 ramps. The indirect impacts occur because the A7C-FEC-M/Preferred Alternative diverts traffic from I-5 ramps, thereby reducing the level of congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 now chooses to use I-5, resulting in additional traffic at some of the ramps and ramp intersections serving I-5. It is this additional traffic that causes indirect adverse impacts to occur under the A7C-FEC-M/Preferred Alternative.

~~The A7C-FEC-M Alternative would displace 80 housing units and 256 persons under the Initial and 92 housing units and 293 persons under the Ultimate.~~ The A7C-FEC-M Alternative would not result in the displacement of any residences or residents. The Preferred Alternative is a refined alignment based on the A7C-FEC-M corridor Alternative and would not result in the displacement of any residences or residents.

~~The A7C-FEC-M Alternative would displace 2 ha (6 ac) of rated agricultural land (NRCS) and 89 ha (220 ac) of agricultural reserves for the Initial and 2 ha (6 ac) of rated agricultural land and 92 ha (227 ac) of agricultural reserves for the Ultimate.~~

The A7C-FEC-M Alternative would not displace any agricultural uses; however, it will result in the loss of 2.8 ha (7.1 ac) of Farmland of Statewide Importance on MCB-Pendleton and 88.9 ha (219.7 ac) of Williamson Act Agricultural Preserves on RMV. In addition, the A7C-FEC-M would affect 278.8 ha (689.0 ac) of lands classified as grazing lands on the RMV. A7C-FEC-M has been refined as a result of additional engineering analysis and resource avoidance. The construction and operation of the A7C-FEC-M Alternative would not preclude the use of agricultural areas outside of the project footprint.

The Preferred Alternative, which is a refined alignment based on the A7C-FEC-M-Initial Alternative, would not displace any agricultural uses. It would result in the loss of in the loss of 3.92 ha (9.67 ac) of Farmland of Statewide Importance on MCB-Pendleton and approximately 82 ha (202 ac) of Williamson Act Agricultural Preserves on RMV. In addition, the Preferred Alternative would affect 187 ha (463 ac) of lands classified as grazing lands on the RMV. The construction and operation of the Preferred Alternative would not prelude the use of agricultural areas outside of the project footprint.

Long-Term Productivity

~~The A7C-FEC-M Alternative would acquire residences. There are sufficient sites in the study area for the relocation of these displaced people.~~ The A7C-FEC-M Alternative would not result in the displacement of any residences or residents. The Preferred Alternative is a refined alignment based on the A7C-FEC-M corridor Alternative and would not result in the displacement of any residences or residents.

The A7C-FEC-M/Preferred Alternative would add approximately 26 km (16 mi) of road, with an additional approximately 1.3 km (0.3 mi) of improvements on the I-5. This would change the circulation system in the study area, with the added road making some traffic movements more efficient. ~~This~~ These Alternatives would also provide a travel time savings of 21,000 hr/day for the RMV Plan and 25,000 hr/day for OCP-2000.

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the A7C-FEC-M/Preferred Alternative. ~~This~~ These Alternatives have ~~has~~ a relatively large number of benefits and a large number of impacts. In addition to the benefits associated with intersection efficiency and travel time savings, these Alternatives would result in impacts due to cost. ~~and displacement of persons~~.

4.27.2.6 Alignment 7 Corridor-Avenida La Pata Variation Alternative

Short-Term Benefits

Short-term benefits that would result from the A7C-ALPV Alternative relate generally to improved traffic due to the availability of an alternative travel route in South Orange County. Time spent commuting would decrease with travel time savings are 8,000 hr/day (assuming the RMV plan and OCP-2000 build out) compared to the No Action Alternatives.

The A7C-ALPV Alternative provides essentially the same connection to the local circulation system as the CC-ALPV Alternative. Future traffic conditions and the beneficial effects to the circulation system for this Alternative are essentially the same as the A7C-ALPV Alternative results discussed in Section 4.27.2.4.

There would be an increase in short-term construction jobs (28,000 jobs for the Initial and 30,000 jobs for the Ultimate) associated with this Alternative. Over the long-term there would be an undetermined amount of jobs, mostly associated with road maintenance, toll plaza staff and traffic enforcement needs generated by the A7C-ALPV Alternative.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $876 million for the Initial and $924 million for the Ultimate. Land acquisition costs are estimated at $86 million for the A7C-ALPV Initial and $96 million for the A7C-ALPV Ultimate. These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. Directly impacted riparian ecosystem include 9.4 ha (23.1 ac) for the Initial and 13.0 ha (32.0 ac) for the Ultimate. The Alternative would result in 6.8 km (4.2 mi) of directly impacted waters of the US for the Initial and 8.2 km (5.1 mi) for the Ultimate. Impacted plant communities resulting from construction of the A7C-ALPV Alternative include 371 ha (915 ac) for the Initial and 430 ha (1,061 ac) for the Ultimate. Mitigation will reduce some of these impacts.

The A7C-ALPV Alternative provides essentially the same connection to the local circulation system as the CC-ALPV Alternative. Future traffic conditions and the adverse impacts to the circulation system for this Alternative are essentially the same as the CC-ALPV Alternative results discussed in Section 4.27.2.4.

The A7C-ALPV Alternative would displace 80 housing units and 256 persons under the Initial and 92 housing units and 293 persons under the Ultimate.

The A7C-ALPV Alternative would displace 3 ha (8 ac) of rated agricultural land (NRCS) and 171 ha (423 ac) of agricultural reserves for the Initial and 4 ha (9 ac) of rated agricultural land and 183 ha (451 ac) of agricultural reserves for the Ultimate.

Long-Term Productivity

The A7C-ALPV Alternative would acquire residences. There are sufficient sites in the study area for the relocation of these displaced people.

The A7C-ALPV Alternative would add approximately 14 km (8 mi) of road. This would change the circulation system in the study area, with the added road making some traffic movements more efficient. This Alternative would also provide a travel time savings of 8,000 hr/day (assuming the RMV plan and MPAH/RTP build out).

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the A7C-ALPV Alternative. This Alternative has a relatively large number of benefits and a large number of impacts. In addition to the benefits associated with intersection efficiency and travel time savings, this Alternative would result in impacts due to cost and displacement of persons.

4.27.2.7 Arterial Improvements Only Alternative

Short-Term Benefits

Short-term benefits that would result from the AIO Alternative relate generally to improved traffic flow and reduced congestion due to the proposed improvements. Time spent commuting would decrease with travel time savings for the proposed RMV plan of 5,000 hr/day and 8,000 hr/day for OCP-2000, compared to the No Action Alternatives. The addition of a new travel route will also increase safety.

The AIO Alternative is forecast to have a beneficial effect at four arterial intersections. The AIO Alternative results in substantially fewer arterial intersection and I-5 main line deficiencies compared to the No Project Alternative.

There would be an increase in short-term construction jobs (11,000 jobs) associated with this Alternative. The amount of long-term jobs is unknown.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $351 million. Land acquisition costs are estimated at $171 million for the AIO Alternative. These costs are in addition to the cost of constructing this Alternative.

Potential short-term impacts to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. The AIO Alternative would result in 3.7 ha (9.2 ac) of directly impacted riparian ecosystems. The Alternative would result in 5.9 km (3.7 mi) of directly impacted waters of the US. Impacted plant communities resulting from construction of the AIO Alternative include 230 ha (568 ac). However, mitigation measures are designed to reduce these impacts.

The AIO Alternative produces fewer deficient arterial intersections, I-5 mainline segments and freeway/tollway ramps compared to the No Action Alternatives, although the Alternative results in the most deficiencies of all alternatives analyzed. Direct adverse traffic impacts are projected to occur under the AIO Alternative at a number of freeway/tollway ramps and freeway/tollway ramp intersections that lead to and from the Antonio Parkway/Avenida La Pata corridor. An indirect adverse impact is also forecast to occur at one I-5 ramp under the AIO Alternative.

The AIO Alternative would displace 263 housing units and 827 persons. The Alternative would also displace 17 uses, 4 of which are commercial uses in the City of Rancho Santa Margarita and 200 employees. The AIO Alternative would displace 6 ha (14 ac) of rated agricultural land (NRCS) and 15 ha (37 ac) of agricultural reserves (Williamson Act), as stated in Table 4.3-3 Summary of Impacts Mitigation Measures and Level of Significance after Mitigation Related to Farmland Impacts in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Farmland).

Long-Term Productivity

The AIO Alternative would convert agricultural land to a transportation corridor use. However, mitigation measures provided in Section 4.3.4 would substantially reduce impacts on agricultural land.

The AIO Alternative would also convert residences and businesses to a transportation corridor use. This Alternative would require the acquisition of 263 residences and displace 200 employees. There are sufficient sites in the study area for the relocation of these displaced uses.

The AIO Alternative assumes improvements beyond the MPAH and the RTP on Antonio/LA Pata. This would improve some of the arterial intersections in the circulation system in the study area, thereby making some traffic movements more efficient and safer with improved access. This Alternative would also provide a travel time savings of 5,000 hr/day for the RMV plan and 8,000 hr/day for OCP-2000.

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the AIO Alternative. The Alternative has a moderate number of benefits and impacts with moderate travel time savings. Even though the costs to construct these improvements are low, the impact of displacing persons, businesses, and agricultural land is high.

4.27.2.8 I-5 Alternative

Short-Term Benefits

Short-term benefits that would result from the I-5 Alternative relate generally to improved traffic flow and reduced congestion due to the improvements proposed on I-5. Time spent commuting would decrease with travel time savings for the proposed RMV plan at 20,000 hr/day and at 22,000 hr/day for OCP-2000, compared to the No Action Alternatives.

The I-5 Alternative is forecast to have a beneficial effect at nine arterial intersections and five tollway ramps. The I-5 Alternative results in substantially fewer I-5 mainline deficiencies compared to the No Action Alternatives, with only the segment of I-5 between El Toro Road and Alicia Parkway forecast to operate deficiently under the I-5 Alternative, and fewer arterial intersection and freeway/tollway ramp deficiencies than the No Action Alternatives.

There would be an increase in short-term construction jobs (43,000 jobs) associated with this Alternative. The amount of long-term jobs is unknown.

Short-Term Costs/Impacts

The construction cost of this Alternative is estimated at approximately $1.331 billion. Land acquisition costs are estimated at $1.07 million for the I-5 Alternative. The land acquisition costs are in addition to the cost of constructing the Alternative.

Potential short-term impacts to the environment include soil disturbance, sediment runoff, traffic disruptions, air quality impacts, construction noise, loss of visual quality and increased energy use. The I-5 Alternative would result in 5.5 ha (13.7 ac) of directly impacted riparian ecosystems. The Alternative would result in 4.8 km (3.0 mi) of directly impacted waters of the US stream channels. Impacted plant communities resulting from construction of the I-5 Alternative include 504 ha (1,245 ac). However, mitigation measures are designed to reduce these impacts.

Direct adverse traffic impacts are forecast to occur under the I-5 Alternative at a number of intersections and freeway ramps along routes that lead to and from the I-5 corridor. No indirect adverse impacts are forecast to occur under the I-5 Alternative.

The I-5 Alternative would displace 838 housing units and 1,970 persons. The Alternative would also displace 382 uses, 336 of which are commercial uses and 4,150 employees.

Long-Term Productivity

The I-5 Alternative would convert residences and businesses to a transportation corridor use. There are sufficient sites in the study area for relocation of these displaced uses.

The I-5 Alternative assumes full build out of the MPAH and the RTP and substantial additional improvements to I-5. This would improve some of the arterial and freeway intersections in the circulation system in the study area, thereby making some traffic movements more efficient and safer with improved access. This Alternative would also provide a travel time savings of 20,000 hr/day for the RMV plan and 22,000 hr/day for OCP-2000.

Conclusion

Table 4.27-1 shows a comparison of benefits and impacts of the I-5 Alternative. The Alternative has moderate travel time savings and would benefit only two arterial intersections. Benefits are moderate even though the costs to construct the improvements on the I-5 and the impact of displacing persons, businesses, and agricultural land are high.

4.27.2.9 No Action Alternative – OCP-2000

Short-Term Benefits

Because this No Action Alternative would not include any SOCTIIP transportation improvements, there would not be short-term benefits related to this Alternative.

Short-Term Costs/Impacts

Because this No Action Alternative would not include any construction of SOCTIIP transportation improvements, there would not be short-term costs or impacts related to this Alternative. A number of facilities are forecast to operate deficiently in this No Action Alternative, and a greater number of deficiencies are forecast based on the committed circulation system than the MPAH/RTP build out circulation system. This is because the MPAH/RTP build out circulation system provides more facilities and greater system capacity than the committed system.

Long-Term Productivity

Because there would be no SOCTIIP construction under this No Action Alternative, there would be no direct impacts to long-term productivity, however there may be adverse indirect effects associated with increased congestion and delay created by future traffic. As stated previously, a number of deficiencies are forecast based on the committed circulation system. These deficiencies are not associated with a SOCTIIP alteration of the circulation network and, therefore, are not a direct impact. In addition, the purpose and need will not be met and the benefits of the build Alternatives would not be provided under this No Action Alternative.

Conclusion

Because there would be no SOCTIIP related construction under the No Action Alternative, there would be no direct impacts and no benefits to short-term or long-term productivity.

4.27.2.10 No Action Alternative – RMV Plan

Short-Term Benefits

Because this No Action Alternative would not include SOCTIIP transportation improvements, there would not be short-term benefits related to this Alternative.

Short-Term Costs/Impacts

Because this No Action Alternative would not include any construction of SOCTIIP transportation improvements, there would be no short-term costs or impacts related to this Alternative. A number of facilities are forecast to operate deficiently in this No Action Alternative and a greater number of deficiencies are forecasts based on the committed circulation system than the MPAH/RTP build out circulation system. This is because the MPAH/RTP build out circulation system provides more facilities and greater system capacity than the committed system. A somewhat greater number of deficiencies are forecast under scenarios that assume the 21,000 du OCP-2000 for the RMV area compared to scenarios based on the 14,000 du proposed RMV development plan.

Long-Term Productivity

Because there would be no SOCTIIP construction under this No Action Alternative, there would be no direct impacts to long-term productivity, however there may be adverse indirect effects associated with increased congestion and delay created by future traffic. As stated previously, a number of deficiencies are forecast based on the committed circulation system. These deficiencies are not associated with a SOCTIIP alteration of the circulation network and, therefore, are not a direct impact. In addition, the purpose and need will not be met and the benefits of the build Alternatives would not be provided under this No Action Alternative.

Conclusion

Because there would be no SOCTIIP related construction under the No Action Alternative, there would be no direct impacts and no benefits to short-term or long-term productivity.

Table 4.27-1
Benefit/Impact Comparison

Alternative	Benefits	Impacts/Costs
FEC-W-I&U	• Improvements to 14 arterial intersections. • Improvements to 5 I-5 freeway mainline segments. • Improvements to 1 freeway/tollway ramp. • Short-term construction jobs: 17,000 jobs (I) and 21,000 jobs (U). • Travel time savings: 20,000 hr/day (RMV) and 34,000 hr/day (OCP). • Increased safety. • Additional travel route opportunities.	• Deficiencies 4 freeway/tollway ramps (indirect). • Construction costs: $637 million (I) and $798 million (U). • Acquisition/relocation costs: $68 million (I) and $72 million (U). • 32 ha (78 ac) (I) and 32 ha (80 ac) (U) of rated agricultural land. • 109 ha (269 ac) (I) and 111 ha (275 ac) (U) of agricultural reserves. • Impacted riparian habitat: 16 ha (I) and 16 ha (U) • Impacted plant communities: 444 ha (I) and 462 ha (U) • Impacted waters of the US: 12 km (I) and 13 ha (U).
FEC-M-I&U	• Improvements to 14 arterial intersections. • Improvements to 5 I-5 freeway mainline segments. • Improvements to 1 freeway/tollway ramp. • Short-term construction jobs: 19,000 jobs (I) and 23,000 jobs (U). • Travel time savings: 20,000 hr/day (RMV) and 34,000 hr/day (OCP). • Increased safety. • Additional travel route opportunities.	• Deficiencies in 4 freeway/tollway ramps (indirect). • Construction costs: $696 million (I) and $842 million (U). • Acquisition/relocation costs: $66 million (I) and $69 million (U). • 21 ha (53 ac) (I) and 24 ha (58 ac) (U) of rated agricultural land. • 123 ha (307 ac) (I) and 133 ha (328 ac) (U) of agricultural reserves. • Impacted riparian habitat: 20 ha (I) and 22 ha (U) • Impacted plant communities: 459 ha (I) and 486 ha (U) • Impacted waters of the US: 15 km (I) and 16 km (U).
CC-I&U	• Improvements to 11 arterial intersections. • Improvements to 5 I-5 freeway mainline segments. • Improvements to 2 freeway/tollway ramps. • Short-term construction jobs: 23,000 jobs (I) 31,000 jobs (U). • Travel time savings: 18,000 hr/day (RMV) and 26,000 hr/day (OCP). • Increased safety. • Additional travel route opportunities.	• Deficiencies in 1 arterial intersection. • Deficiencies in 2 freeway tollway ramps. • Deficiencies in 3 freeway/tollway ramps (indirect). • Construction costs: $703 million (I) and $944 million (U). • Acquisition/relocation costs: $419 million (I) and $435 million (U). • Displaced housing units: 593 units (I) and 602 units (U). • Displaced persons: 1,380 persons (I) and 1,405 persons (U). • 1,100 displaced employees. • 106 displaced uses (89 commercial uses). • 18 ha (43 ac) (I) and 22 ha (53 ac) (U) of rated agricultural land.

Table 4.27-1 (continued)
Benefit/Impact Comparison

Alternative	Benefits	Impacts/Costs
		• 84 ha (208 ac) (I) and 110 ha (272 ac) (U) of agricultural reserves. • Impacted riparian habitat: 22 ha (I) and 24 ha (U). • Impacted plant communities: 491 ha (I) and 528 ha (U). • Impacted waters of the US: 17 km (I) and 18 km (U).
CC-ALPV-I&U	• Improvements to 8 arterial intersections. • Improvements to 3 I-5 freeway mainline segments. • Improvements to 1 freeway/tollway ramp. • Short-term construction jobs: 15,000 jobs (I) and 18,000 jobs (U). • Travel time savings: 8,000 hr/day.(RMV and OCP) • Additional travel route opportunities.	• Deficiencies in 4 arterial intersections. • Deficiencies in 3 freeway/tollway ramps. • Deficiencies in 3 freeway/tollway ramps (indirect). • Construction costs: $457 million (I) and $560 million (U). • Acquisition/relocation costs: $55 million (I) and $68 million (U). • Displaced housing units: 2 units (I) and 14 units (U). • Displaced persons: 7 persons (I) and 44 persons (U). • 18 ha (43 ac) (I) and 22 ha (53 ac) (U) of rated agricultural land. • 84 ha (208 ac) (I) and 110 ha (272 ac) (U) of agricultural reserves. • Impacted riparian habitat: 20 ha (I) and 23 ha (U) • Impacted plant communities: 324 ha (I) and 370 ha (U) • Impacted waters of the US: 14 km (I) and 15 km (U).
A7C-FEC-M-I&U[1]	• Improvements to 13 arterial intersections. • Improvements to 5 I-5 freeway mainline segments. • Improvements to 2 freeway/tollway ramps. • Short-term construction jobs: 17,000 jobs (I) and 21,000 jobs (U). • Travel time savings: 21,000 hr/day (RMV) and 25,000 hr/day (OCP). • Additional travel route opportunities.	• Deficiencies in 4 freeway/tollway ramps (indirect). • Construction costs: $645 million (I) and $800 million (U). • Acquisition/relocation costs: $70 million (I) and $73 million (U). • Displaced housing units: 80 units (I) and 92 units (U) • Displaced persons: 256 persons (I) and 293 displaced persons (U) • 2 ha (6 ac) (I) and (U) of rated agricultural land. • 89 ha (220 ac) (I) and 92 ha (227 ac) (U) of agricultural reserves • Impacted riparian habitat: 17 ha (I) and 19 ha (U) • Impacted plant communities: 447 ha (I) and 464 ha (U). • Impacted waters of the US: 14 km (I) and 15 km (U).
A7C-ALPV-I&U	• Improvements to 8 arterial intersections.	• Deficiencies in 4 arterial intersections.

Table 4.27-1 (continued)
Benefit/Impact Comparison

Alternative	Benefits	Impacts/Costs
	• Improvements to 3 I-5 freeway mainline segments. • Improvements to 1 freeway/tollway ramp. • Short-term construction jobs: 28,000 jobs (I) and 30,000 jobs (U). • Vehicle travel time savings: 8,000 hr/day (RMV and OCP). • Additional travel route opportunities.	• Deficiencies in 3 freeway/tollway ramps. • Deficiencies in 3 freeway/tollway ramps (indirect). • Construction costs: $876 million (I) and $924 million (U). • Acquisition/relocation costs: $86 million (I) and $96 million (U). • Displaced housing units: 80 units (I) and 92 units (U) • Displaced persons: 256 persons (I) and 293 displaced persons (U) • 3 ha (8 ac) (I) and 3 ha (9 ac) (U) of rated agricultural land • 171 ha (423 ac) (I) and 183 ha (451 ac) (U) of agricultural reserves • Impacted riparian habitat: 9 ha (I) and 13 ha (U) • Impacted plant communities: 371 ha (I) and 430 ha (U) • Impacted waters of the US: 7 km (I) and 8 km (U)
AIO	• Improvements to 4 arterial intersections. • 11,000 short-term construction jobs. • Travel time savings: 5,000 hr/day (RMV) and 8,000 hr/day (OCP). • Increased safety. • Improvements to existing circulation system.	• Deficiencies in 12 arterial intersections. • Deficiencies in 7 freeway/tollway ramps. • Deficiencies in 1 freeway/tollway ramp (indirect). • Construction costs: $351 million. • Acquisition/relocation costs: $171 million. • 263 displaced housing units. • 827 displaced persons. • 200 displaced employees. • 17 displaced uses (4 commercial uses). • 6 ha (14 ac) rated agricultural land. • 15 ha (37 ac) of agricultural reserves. • Impacted riparian habitat: 4 ha. • Impacted plant communities: 230 ha. • Impacted waters of the US: 6 km.
I-5	• Improvements to 9 arterial intersections. • Improvements to 5 freeway/tollway ramps. • Improvements to 9 freeway (I-5) mainline segments. • 43,000 short-term construction jobs. • Travel time savings: 20,000 hr/day (RMV) and 22,000 hr/day (OCP).	• Deficiencies in 2 arterial intersections. • Deficiencies in 4 freeway/tollway ramps. • Construction costs: $1.331 billion. • Acquisition/relocation costs: $1.07 billion. • 838 displaced housing units.

Table 4.27-1 (continued)
Benefit/Impact Comparison

Alternative	Benefits	Impacts/Costs
	• Increased safety. • Improvements to existing circulation system.	• 1,970 displaced persons. • 4,150 displaced employees. • 382 uses (336 commercial uses). • Impacted riparian habitat: 6 ha. • Impacted plant communities: 230 ha. • Impacted waters of the US: 5 km.
No Action Alternative – OCP-2000	• No additional costs.	• Deficiencies in 27 arterial intersections. • Deficiencies in 10 I-5 freeway mainline segments. • Deficiencies in 16 freeway/tollway ramps.
No Action Alternative – RMV Development Plan	• No additional costs.	• Deficiencies in 27 arterial intersections. • Deficiencies in 10 I-5 freeway mainline segments. • Deficiencies in 14 freeway/tollway ramps.

Source: P&D Consultants (2003).
Note: (I) denotes Initial
(U) denotes Ultimate
(RMV) assumes 14,000 dus on RMV
(OCP) assumes 21,000 dus on RMV
[1]See Section 2.2 and Executive Summary for more information regarding the benefits of the Preferred Alternative.

4.28 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.28.1 METHODOLOGY

Discussion of potential irreversible and irretrievable commitments of resources under the build and the No Action Alternatives is a required topic in an EIR/EIS under both CEQA and NEPA. This Section describes what important resources would be used or removed by the project Alternatives. These include the materials, labor and energy needed to build and operate the project; land and present uses of that land directly taken to build the project; environmental conditions degraded or destroyed by the project; and public service capabilities used by the project. The commitment of resources for the Preferred Alternative is comparable to that of the A7C-FEC-M Initial Corridor.

4.28.2 ANALYSIS

4.28.2.1 Build Alternatives

Resources Used During Construction

The estimated construction costs for the build Alternatives vary from $457 million (CC-ALPV Alternative) to $876 million (A7C-ALPV Alternative) for these Initial Corridors and $559 million (CC-ALPV Alternative) to $944 million (CC Alternative) for these Ultimate Corridors. The construction costs for the AIO and I-5 Alternatives are $351 million and $1.33 billion, respectively. The build Alternatives would provide construction jobs. Construction materials and energy would also be used to build the selected Alternative. For a more detailed discussion on construction cost, refer to Section 4.27: (The Relationship between Local and Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity).

Resources Used For Maintenance and Operations

An undetermined amount of additional labor and materials would be required to maintain the new corridors and the widened facilities under the build Alternatives. There would be energy consumed resulting from maintenance of automobiles using these facilities as well as road maintenance. Under the corridor Alternatives, energy would be consumed during operations and maintenance of the toll collection facilities. Energy used by the build Alternatives would be an irretrievable use of energy. Based on Caltrans and TCA operations of existing facilities, materials and energy use to maintain and operate any of the facilities is expected to be minimal.

Refuse collected along the build Alternatives during routine maintenance would be disposed of in existing landfills, including Prima Deshecha Sanitary Landfill. The amount of refuse and landscape trimmings collected along these Alternatives would represent a very minor part of the planned capacity of the Prima Deshecha Sanitary Landfill, the nearest landfill to the project area (as discussed in Section 4.24 (Affected Environment, Impacts and Mitigation Measures Related to Public Services and Utilities.)

Land and Land Uses Taken

Right-of-way would be required for the improvements proposed under the build Alternatives. Depending on the Alternative, residential units, commercial/industrial uses and/or agricultural land would be taken to build the Alternatives. Section 4.4 (Affected Environment, Impacts and Mitigation Measures Related to Socioeconomics and Environmental Justice) discusses the land and uses taken. Although relocation of the residences and businesses affected would be possible within the local area, the conversion of this land

to right-of-way would effectively and practically be an irreversible commitment of this land to transportation facilities.

Environmental Conditions Degraded or Destroyed

The build Alternatives would result in adverse impacts representing a degradation or destruction of existing environmental conditions, thereby resulting in an irretrievable loss of resources. Impacts of the SOCTIIP Alternatives to the environment include potential loss of cultural and biological resources, traffic, long-term air quality impacts, loss of visual quality, and increased energy and mineral use.

Public Service Capacities Affected

The build Alternatives would require disposal of materials (i.e., excess soil and rock material) associated with demolition that cannot be recycled. Because landfill capacity is finite, deposition of the total excess material in area landfills for some Alternatives would constitute a substantial amount of material and would be an irretrievable commitment of those build Alternatives related to landfill capacity.

Some SOCTIIP corridor Alternatives cross Prima Deshecha Sanitary Landfill. Impacts from refuse capacity reductions at the Landfill as a result of construction of these Alternatives are discussed in detail in Section 4.24.

The additional road facilities under the build Alternatives would require additional commitment of law enforcement service and patrol resources. At the same time, there would be a beneficial effect on fire protection and emergency medical services through the enhanced transportation network.

Cumulative Impacts Due To Related Projects/Growth Inducement

The SOCTIIP corridor Alternatives have the potential to facilitate or support growth in localized areas through the provision of enhanced accessibility to specific parts of the study area. However, while all corridor SOCTIIP Alternatives may affect the localized rate and location of growth because development would be expected to cluster in the vicinity of the transportation system facilities that enhance accessibility, the regional growth rate would be expected to remain stable. The potential for cumulative impacts, as a result of the SOCTIIP build Alternatives is discussed in detail in Section 5.0 (Cumulative Impacts).

Beneficial Effects

The commitment of these resources is based on the concept that residents in the immediate area and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and alternative access for emergency services which are anticipated to outweigh the commitment of these resources.

4.28.2.2 No Action Alternatives

Because the No Action Alternatives would not include any SOCTIIP related construction, no additional or incremental increase in irreversible or irretrievable commitment of resources would occur under these Alternatives.

SECTION 5.0
CUMULATIVE IMPACTS

5.1 OVERVIEW OF CUMULATIVE IMPACTS

5.1.1 DEFINITION OF CUMULATIVE IMPACTS

Construction and operation of any of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) build Alternatives would result in direct and indirect impacts that could contribute to cumulative effects to resources when combined with other related past, present and reasonably foreseeable future actions. For this analysis of the potential cumulative effects of the SOCTIIP Alternatives, the following definition of cumulative impact in the Council on Environmental Quality (CEQ) regulations governing the implementation of the National Environmental Policy Act (NEPA) (40 CFR 1508.7) was used:

> "...the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

The analysis of the cumulative effects of the SOCTIIP Alternatives also incorporates the suggestions in the CEQ's handbook titled "Considering Cumulative Effects Under the National Environmental Policy Act" (January 1997), which is intended as an informational document rather than formal agency guidance. In addition, the cumulative effects of the SOCTIIP Alternatives were assessed in accordance with the Federal Highway Administration (FHWA) "Position Paper on Secondary and Cumulative Impact Assessment" (August 20, 1992). Based on the CEQ and FHWA discussions of cumulative effects, the following principles were applied to the assessment of cumulative effects of the SOCTIIP Alternatives:

1. Cumulative effects typically are caused by the aggregate effects of past, present and reasonably foreseeable actions. These are the effects (past, present and future) of the proposed action on a given resource *and* the effects (past, present and future), if any, caused by all other related actions that affect the same resource.

2. When other related actions are likely to affect a resource that is also affected by the proposed action, it does not matter who (federal, non-federal or private) has taken the related action(s).

3. The scope of cumulative effects analyses can usually be limited to reasonable geographic bounds and time periods. These boundaries should extend only so far as the point at which a resource is no longer substantially affected or where the effects are so speculative as to no longer be truly meaningful.

4. Cumulative effects can include the effects (past, present and future) on a given resource caused by similar types of actions (e.g., air emissions from several individual highway projects) and/or the effects (past, present and future) on a given resource caused by different types of actions (e.g., air emissions from a highway project, a solid waste incinerator and a mining facility).

5.1.2 IDENTIFICATION OF CUMULATIVE PROJECTS

As discussed in Section 5.2, the analysis of cumulative effects uses two methods (1) adopted forecasts, and (2) analysis of specific projects. This cumulative impacts analysis examines past, present and reasonably foreseeable future projects in the areas which have the potential to contribute to cumulative

adverse impacts. The primary basis for this cumulative analysis is the adopted OCP-2000 forecasts. The forecast is supplemented by a list of cumulative projects. This analysis used the best available information to assess these projects and their potential adverse impacts. Depending on the status of the individual projects, each of the projects considered in this cumulative impacts analysis is supported by different levels of information. Public documents, conceptual plans, documents or applications prepared for environmental or planning reviews or regulatory approvals, and consultations with project applicants and government agencies were the primary sources of this information. As shown in the summary tables in this Section, some environmental documents did not include analysis of certain environmental parameters. If the project environmental documents did not address certain parameters, the assumption was made that there would be no impacts related to that parameter as a result of that project. In some cases, no environmental document was available for a proposed project at the time of the Draft EIS/SEIR preparation (such as the RMV development or a number of proposed Caltrans projects) and general assumptions were made about the potential impacts of those projects in the overall cumulative impacts analysis. For example, the traffic, air and noise analyses assumed certain levels of development on RMV, and the biological resources analysis assumed certain conservation/preservation alternatives as part of the cumulative impacts analyses. The impacts of past projects are accounted for in the existing conditions and historical perspective on the status of various resources, such as sensitive species and habitats.

The projects identified in the study area identified for this analysis are:

- Projects that are reflected in build out of south Orange County in accordance with Orange County Projections-2000 (OCP-2000).
- Projects that are of a similar nature, could affect similar resources and/or are located in geographic proximity to the SOCTIIP build Alternatives.
- Projects that have the potential to generate environmental impacts and, when considered collectively with the SOCTIIP build Alternatives, could result in or contribute to cumulative adverse environmental impacts.
- Proposed projects which have been proposed and/or received or are pending environmental approval and/or regulatory reviews or approvals.

Based on these criteria, in addition to OCP-2000 build out, reasonably foreseeable projects in the SOCTIIP study area region were identified. These projects are land use development projects and transportation projects, as described in the following Sections. The approximate geographic boundaries of the area covered by these projects extends from the vicinity of the site of the previous Marine Corps Air Station (MCAS) El Toro northeast of the Interstate 5 (I-5)/Interstate 405 (I-405) interchange south along I-5 to the north part of Marine Corps Base (MCB) Camp Pendleton. The SOCTIIP study area extends east from I-5 to the County boundary, including the undeveloped parts of the Rancho Mission Viejo (RMV) property. This study area is shown on Figure 5.1-1. Figures and tables cited in this Section are provided following the last page of text in this Section.

The existing natural, physical, socioeconomic and environmental conditions in this study area, as described in detail in Section 4.0 (Affected Environment, Environmental Consequences and Mitigation Measures), serve to define the baseline conditions for this cumulative impacts analysis. The SOCTIIP build and the No Action-OCP-2000 Alternatives assume build out of the Master Plan of Arterial Highways (MPAH) and the level of land use in the OCP-2000 demographic projects. The No Action-RMV Alternative assumes buildout of the MPAH and 14,000 dwelling units (dus) on the RMV, instead of the 21,000 dus assumed on RMV under OCP-2000. Build out of the MPAH and the differences and use assumptions by 2025 would form the background conditions in 2025. Therefore, the current existing

conditions in the SOCTIIP study area are not the same as the background conditions assumed in 2025 under the SOCTIIP build and No Action Alternatives.

The analysis for San Diego County encompasses the north part of MCB Camp Pendleton, which includes both the active training areas on MCB Camp Pendleton and the San Onofre State Beach lease area. No other part of San Diego County is included in the base line study area for any of the environmental parameters except for analysis which includes watersheds or biological resources habitat and species issues.

5.1.3 CUMULATIVE LAND DEVELOPMENT PROJECTS

5.1.3.1 Development in Orange County

South Orange County has experienced relatively rapid growth over the last two decades. This period of rapid growth resulted in the conversion of undeveloped areas that have historically been used for livestock and ranching operations, crop production or other agricultural uses, to suburban and urban uses. The area below the foothills was also rich with mineral resources and mining and extraction operations have historically taken place in southern Orange County along San Juan Creek and in Arroyo Trabuco. These operations have also been or are in the process of gradually being phased out as these areas are developed in suburban and urban uses.

Table 5.1-1 is a list of major land use projects that have been approved for development in the SOCTIIP study area. These projects involve land use changes or intensification which are consistent with the Orange County Projections – 2000 (OCP-2000) demographic forecasts for this part of Orange County. While some individual projects may involve a greater intensity than currently allowed by the General Plan or OCP-2000, many projects build out at less than the allowed density. These differences balance out such that the use of OCP-2000 provides a reasonable prediction of future development intensity. Table 5.1-2 shows some additional, smaller projects proposed in the study area which are either infill projects or build out of property which has General Plan or zoning levels of land use approvals. The general locations of these projects in the SOCTIIP study area are shown on Figure 5.1-1. This growth is expected to continue as pressure for new housing increases with the relatively strong job market and economy that Orange County has experienced in recent years. The County of Orange General Plan and Orange County Projections-2000 (OCP-2000, Center for Demographic Research, adopted June 22, 2001) forecast build out of Orange County by 2025.

While there are some remaining undeveloped areas subject to infill development, there are only two major areas left in the cumulative impacts study area that are undeveloped and/or unplanned:

- North Ranch Policy Plan area directly east of and in the future annexation area of the City of Orange. This area, which is owned by The Irvine Company, is included in the cumulative analysis for relevant impacts for traffic, air quality and noise.
- The South Ranch area on the 9,254 ha (22,850-acre) Rancho Mission Viejo (RMV) property immediately east of the Cities of Mission Viejo and San Juan Capistrano. This area is not designated at this time for future annexation to any city. The South Ranch area is in the SOCTIIP study area and the cumulative impacts study area, and is referred to herein simply as "RMV."

These two parcels represent the last land use intensification/major growth areas in the cumulative impact study area; the rest of the area is either developed or committed to permanent open space uses, or has an approved plan for development. These two parcels are both projected to develop in the future as indicated in the adopted regional growth projections (OCP-2000). These two parcels represent the greatest

remaining potential for land use intensification in Orange County. As discussed throughout Section 4.0 (Affected Environment, Environmental Consequences and Mitigation Measures), the RMV has submitted a development plan to the County of Orange for the RMV (South Ranch) which proposes 14,000 dwelling units (dus) on this property. Therefore, it is expected that RMV land uses will change from agriculture, ranching and mining uses to urban and suburban land uses in the future.

5.1.3.2 Historical Development Trends in South Orange County

Industry/Employment Factors

In the past, Orange County was a rural county supported primarily by an agricultural economy, and was an agricultural community of statewide and national significance. Soil fertility and climate have contributed to a successful economic base focused on agricultural. Some of the first major developments in Orange County were agriculturally based in either crop production or ranching activities. The agricultural area and the first developed areas in the County were concentrated near the coast or in the river plain bordering the Santa Ana River. However, the 1930s and 1940s were marked by radical agricultural change, with declines in some crop production except for citrus production, which peaked during this time.

The long decline of agriculture in the County, which began in the mid-1940s, was stemmed briefly in the 1950s, but began again in the 1960s and 1970s with the rapid suburbanization of much of the County as the economic base dramatically shifted to white collar industry such as aero space and service industry such as tourism. As the shift continued away from an agricultural base to other industries (e.g., technical, service, information), development rapidly extended south and east inland from the coast in the 1950's, and today, continues that trend with the proposed development of RMV and the continuing development of the foothill areas of Orange County. Growth projections through 2025 indicate the continued trend of urbanization of the County.

This growth trend has resulted in the loss of many natural resources and an increase in the effects of human activity such as noise and air pollution. These historic effects are accounted for in the context of cumulative impacts as they relate to land use, farmland and agriculture, noise, air quality, habitat and biological resources, flood plains, water quality, archaeological resources and military uses.

New Cities in South Orange County

The rapid growth in southern Orange County predominately occurred from the mid 1980s to the present. This is illustrated by the large number of new cities established in south Orange County during this period. With the exception of the Cities of Irvine, Laguna Beach, San Clemente, Laguna Hills and San Juan Capistrano, virtually all the cities in the SOCTIIP study area were incorporated in the late 1980s or 1990s. These are the Cities of Lake Forest (incorporated 1991), Mission Viejo (1988), Dana Point (1989), Laguna Niguel (1989), Laguna Woods (1999) and Rancho Santa Margarita (2000). Most of these incorporations consisted of one large planned community or the consolidation of several planned communities into one city. In addition, the growth and annexation patterns for the Cities of San Juan Capistrano and San Clemente extend predominately inland.

To understand the impetus for the recent incorporations by many Orange County communities, it is important to understand the maturing process of an area or community and when it is eligible and/or desirable to incorporate. Until an area becomes a city, it is under the jurisdiction of the County of Orange with political representation by the County of Orange Board of Supervisors. Once an area becomes a city, it is then represented by the local electorate, usually a city council elected by the residents of the newly established city.

Nearly all the new south Orange County cities began as planned communities. Virtually all were ranches, farms or both within the last 20 years, some with small communities supporting those operations. The land in these unincorporated communities was then subdivided and developed. As the communities matured and built out, they were incorporated as individual cities.

5.1.3.3 Other Major Governmental Actions in the Project Area

As discussed earlier in Section 1.0, there are three other major governmental actions that are being processed in the study area involving the 9,254 ha (22,850 ac) RMV property. These are the proposed development plan for the Rancho Mission Viejo (RMV) property, the South Subregion Natural Community Conservation Plan (NCCP) and Special Area Management Plan (SAMP)/Master Streambed Alteration Agreement (MSAA). It should be noted that these actions, while related, are being coordinated through the different agencies which are implementing them. Therefore, they are being processed concurrently, but the schedules for these actions may change and they may not be completed at the same time. The following is a summary of these three actions all of which have separate environmental review associated with CEQA as well as NEPA for the NCCP and SAMP. An NOP for the RMV development plan was released on February 24, 2003 and a Notice of Intent to prepare an EIS/EIR for the NCCP and SAMP was released on November 8, 2001.

The proposed RMV development, Southern NCCP and the SAMP/MSAA are related to the SOCTIIP corridor alternatives primarily by geography because these proposed projects are occurring in the same general area. ~~The RMV development, NCCP and SAMP/MSAA are much more closely related with one another than any of them are to the proposed corridor alternatives.~~ The proposed corridor alternatives are not dependent on and do not rely in any way on the approval of any of these processes. Although implementation of any of the SOCTIIP Alternatives would be coordinated with some of the same resource agencies and the landowner of RMV, the timing and development of any of these other actions would not affect the implementation of the SOCTIIP Alternatives, which is entirely independent. In the event that a SOCTIP corridor alternative is implemented, the mitigation from the EIS/SEIR and permits would complement large scale plans associated with these other planning efforts. The County of Orange approved the RMV Planned Community (The Ranch Plan) in November 2004, after the publication of the SOCTIIP Draft EIS/SEIR. The Ranch Plan depicted an alignment of the FTC South as shown on the Master Plan of Arterial Highways; however, the EIR for the Ranch Plan acknowledged that if another alignment is selected the development plan will accommodate the selected alignment (Ranch Plan DEIR, page 3-5). Subsequent to County approval of the Ranch Plan, the County of Orange and RMV entered into a Settlement Agreement with the Endangered Habitats League, Natural Resources Defense Council, Sea and Sage Audubon Society, Laguna Greenbelt, Inc., and Sierra Club. The Settlement Agreement did not change the total number of approved dwelling units or non-residential development for the Ranch Plan, but did alter the location of development and increase the area devoted to open space. The approved RMV Ranch Plan provides for the following level of development intensity: 14,000 dwelling units, 3,480,000 square feet of urban activity center uses, 500,000 square feet of neighborhood center uses and 1,220,000 square feet of business park uses. The Settlement Agreement also provides for construction of infrastructure within open space areas to serve the development approved in the Settlement Agreement.

Proposed Development Plan for Rancho Mission Viejo

In 2001, conceptual land use plans for RMV were submitted to the County of Orange (the land use jurisdiction and Lead Agency) proposing 14,000 dwelling units (dus) in a community of mixed use villages on the 9,254-hectare (22,850-acre) RMV property. The village concept combines high density residential, low density residential, commercial and office uses into integrated areas. The proposed Land Use Map and Statistical Table for the proposed development plan are shown in Section 4.2 of this

EIS/SEIR. The plan proposes development on about half of the ranch with the remainder left in open space supporting the existing cattle ranching operations, public open space, (recreation or parks) and private open space. The actions proposed to implement the RMV Plan include amendments to the County's General Plan and Zoning, cancellation of Williamson Act agreements and approval of a development agreement. These were identified as the approvals to be covered in the forthcoming EIR, as stated in the February 24, 2003 NOP.

South Subregion NCCP

The NCCP South Subregion encompasses the area from I-5 from the City of Lake Forest to Dana Point to the coast and the eastern boundary of the City of Lake Forest and extending to the County boundary in Cleveland National Forest (CNF). Although this Subregion encompasses a large area, much of it is already developed or already held in public lands such as the CNF. The primary undeveloped area in the South NCCP subregion is the RMV property, which is why the NCCP is being developed and concurrently processed with the RMV development proposal. The County, in conjunction with CDFG will act as the lead agency for the preparation of the Southern NCCP.

The Orange County Southern Subregion NCCP/HCP program will be completed in two phases: an interim phase and an implementation phase. The interim phase is defined as the period of time between the listing date of the gnatcatcher and the approval of the subregional NCCP program by the USFWS. During the interim phase, the USFWS may approve incidental habitat loss associated with development, provided the loss does not exceed the five percent cumulative maximum established for the Southern Subregion and is adequately mitigated.

The implementation phase of the NCCP/HCP will begin when the Orange County Southern Subregion NCCP/HCP program is completed and approved. The design of the NCCP/HCP reserve is currently being developed. The reserve design will attempt to preserve the most biologically rich areas in the subregion while identifying those areas suitable for development.

The NCCP/HCP documentation is in three parts: (1) the NCCP/HCP, which sets forth the project need/purposes, describes the biological setting and outlines the planning process and conservation strategy; (2) the Joint EIR/EIS for the NCCP/HCP; and (3) the NCCP/HCP Implementation Agreement (IA) which specifies the enforceable measures/mechanisms required to implement the NCCP/HCP. In the Southern Subregion, landowners (including private and public agency owners) would be affected by the NCCP/HCP as lands are designated for permanent preservation or development. Several of these landowners contributed funding and services to support completion of the NCCP/HCP, EIR/EIS and IA, including the County of Orange, RMV and the Santa Margarita Water District (SMWD).

On October 30, 2002, the USFWS and ACOE held an informational meeting on the resource planning for the South Subregion NCCP and the SAMP. Ten candidate plans were presented which ranged from development reflecting the RMV proposal to a very low density of development over a very limited development area. According to the County's website for the South Orange County Coordinating Planning Process, these alternatives will be evaluated in the South NCCP and SAMP environmental studies (http://pdsd.oc.ca.gov/SOCCPP, accessed June 2, 2003). The County of Orange is a cooperating agency on these two efforts.

The open space areas within the Ranch Plan as approved in the Settlement Agreement will conserve over 16,000 acres of open space directly connected to adjacent open space in Caspers Wilderness Park, Cleveland National Forest and MCB Camp Pendleton. Therefore, the open space reserved as part of the Ranch Plan is consistent with and furthers the intent of the NCCP, particularly the reserve design tenets that support the creation of larger reserves and contiguous habitat. See Figure 6.4-1A.

Special Area Management Plan/Master Streambed Alteration Agreement

A precursor to the proposed SAMP/MSAA was prepared in 1999. This 1999 draft SAMP was a comprehensive wetland planning effort prepared for the San Juan Creek and parts of the San Mateo Creek Watersheds by the ACOE. The 1999 draft SAMP provides identification and characterization of the aquatic resources, evaluation of alternatives for impacts to aquatic resources, and identification of the aquatic resources reserve program in these watersheds. The 1999 draft SAMP identifies wetlands and Waters of the Unite States (WoUS) by probability, as well as uplands and unregulated areas. It also identifies aquatic resources in these watersheds. WoUS are subject to regulation as defined in Section 404 of the CWA (33 CFR Part 328.3) and wetlands are a subset of WoUS. The 1999 draft SAMP information is being incorporated into the SAMP/MSAA and the EIS/EIR for that effort.

The ACOE and CDFG are the lead agencies for the preparation of the Aquatic Resources Restoration/ Management Plan, Record of Decision on the NEPA EIS, 404 Permits and Master Streambed Alteration Agreement for the SAMP/MSAA. According to published information on the SOCCPP web site, the following principles are being applied to the planning and formation of the SAMP/MSAA.

1. No net loss of acreage and functions of waters of the United States (WoUS).
2. Maintain/restore hydrologic, water quality, and habitat integrity of WoUS.
3. Protect headwater areas.
4. Maintain/protect/restore diverse and contiguous riparian corridors.
5. Maintain and/or restore floodplain connection.
6. Maintain and/or restore sediment sources and transport equilibrium.
7. Maintain adequate buffer for the protected riparian corridors.
8. Protect riparian areas and associated habitats supporting state/federally listed species and associated critical habitat.

5.1.4 CUMULATIVE TRANSPORTATION PROJECTS

As the County's development plans build out, so will the County's transportation network. The Master Plan of Arterial Highways (MPAH) is the county-wide plan for the traffic and transportation network, which is overseen by the Orange County Transportation Authority. The MPAH identifies existing and planned transportation facilities. For the SOCTIIP study area, some of the planned facilities already have full or partial funding and will be constructed in the near future. These "committed" facilities are listed in Table 5.1-3. The planned facilities that do not have funding or will be constructed when future development is constructed are the "non-committed" facilities listed in Table 5.1-4.

In addition, the California Department of Transportation (Caltrans) has a number of improvement projects in the SOCTIIP study area related to the operation of transportation systems that it controls, such as Interstate 5 (I-5). These projects are listed in Table 5.1-5. Some of these projects are close to completion and some are still being studied. Table 5.1-5 also provides the status of the environmental documentation prepared for each project listed and/or its stage of study.

5.2 ASSESSING CUMULATIVE IMPACTS

NEPA and CEQA both require the analysis of the potential cumulative impacts of a proposed project and other projects in the area. The FHWA CEQ methodology and CEQA both list two methods of analyzing cumulative impacts.

One method is based on adopted forecasts, such as those in a General Plan and/or an official population or demographic forecast, which is the primary method used for this EIS/SEIR. The forecast method takes into consideration adopted forecasts or projections in a given area and evaluates cumulative impacts by environmental parameter in the relative context of what impacts development in accordance with the forecasts or projections will have on each environmental parameter. This is the basis for all the quantitative cumulative analysis, for example, traffic, air quality and noise. The other method is listing of recent and proposed development projects and analyzing each environmental parameter with the total effect from the other projects considered with the effects of the proposed project. This is the purpose of the listings of the projects shown on Figure 5.1-1 and described in detail in Tables 5.1-1 through 5.1-5. The projects list was used in conjunction with the forecast method for those topics where geographic location warranted additional analysis. For example, the cumulative visual impact assessment was based primarily on the forecast method with additional analysis of specific cumulative projects because of the importance of the projects directly adjacent to the SOCTIIP in evaluating cumulative impacts. Both methods are used in evaluating cumulative impacts in this Section, depending on which is more appropriate for the environmental parameter being analyzed.

In addition, for environmental parameters such as traffic, air quality, noise, waterways, hydrologic systems, floodplains and water quality, the cumulative impact study area is often a much larger study area because of the regional nature of the environmental parameter. In these instances, attempting to reduce the study area to capture only the project impacts in relation to the immediate project area does not provide the appropriate context for the impacts and the characteristics of the parameter. For example, the study area for air quality is the Southern California Air Basin (SCAB), which is not limited to just one county, city or jurisdictional boundary. For the cumulative analysis for environmental parameters that have a more regional or subregional context for impacts, the study area will be the same for the project related impacts and the cumulative impacts. The cumulative study area for each environmental parameter is identified at the beginning of the cumulative impacts discussion for each environmental parameter subsection.

5.3 CUMULATIVE IMPACTS

In the beginning of each of the following Sections, a brief discussion on the methodology used for assessing cumulative impacts related to each environmental parameter is provided. For most parameters, the forecast method was used. In most instances, the terms "build Alternatives" and "SOCTIIP Alternatives" refer to all of the SOCTIIP build Alternatives including the Preferred Alternative explained below. There are a few occasions where the cumulative impacts do not apply equally to all the build Alternatives. In some cases, there are differences between the impacts of the alternatives which propose the extension of the existing FTC-South from Oso Parkway (referred to as "corridor Alternatives" and which include the Initial and Ultimate) and the "non-corridor" Alternatives (AIO and I-5). When that is the case, the individual alternative is specified. Generally, the corridor Alternatives have the same or similar cumulative impacts due to the close proximity of the alignments and the similarities of the areas which they traverse. However, those build Alternatives (e.g., the Preferred Alternative) that are located closer to existing development or within the RMV Ranch Plan development areas will have fewer cumulative impacts to habitat fragmentation than the more easterly build Alternatives (e.g., FEC-W; FEC-M). This results in few examples of the corridor Alternatives being identified specifically. In addition, when a particular alternative results in a cumulative impact, it is called out specifically in the discussion.

As stated in Section 2.2, the A7C-FEC-M Alternative evaluated in the Draft EIS/SEIR was refined in order to minimize environmental impacts and address engineering requirements. The A7C-FEC-M Alternative, with the design modifications (including a maximum of six general purpose lanes), was selected as the Preferred Alternative. The design modifications incorporated into the Alternative do not

substantially alter the path of the alignment. Cumulative project impacts are reduced by limiting the Preferred Alternative to a maximum of six general purpose lanes. All utility relocations will occur within the designated disturbance limits for the Preferred Alternative. The evaluation of the potential cumulative impacts of the Preferred Alterative is the same as the evaluation of the potential impacts of the A7C-FEC-M Alternative, except as noted.

5.3.1 CUMULATIVE IMPACTS RELATED TO TRAFFIC AND CIRCULATION

As discussed in Section 3.0 (Traffic and Circulation), traffic impacts were evaluated with cumulative build out. Section 3.2 (Methodology and Assumptions) describes the traffic model including the growth assumptions and variables associated with the growth assumptions and future improvements to the circulation system in the study area. Section 3.2 confirms the cumulative nature of the traffic modeling and evaluation of impacts to the circulation system. Traffic is an environmental parameter for which project impact analysis is inherently cumulative because it is based on build out of the study area in accordance with adopted forecasts and projections. The study area for potential cumulative adverse impacts to traffic and circulation includes the existing freeway and arterial circulation system as discussed in Section 3.0 and shown on Figure 3.2-1. Refer to the analysis in Section 3.0 for the complete discussion of cumulative impacts related to traffic, based on the cumulative impacts of the SOCTIIP alternatives and other land use assumptions. Those effects are summarized briefly in the following Section. As discussed earlier, traffic and circulation levels are related to the growth and development trends as discussed in Section 5.1.3.

5.3.1.1 Summary of Beneficial Traffic Effects

As discussed in Section 3.4.3 (Long-Range Traffic Conditions – No Action Alternative), peak hour deficiencies are forecast throughout the study area under 2025 conditions based on the No Action Alternative. When a build Alternative eliminates the need for improvements that would be required to address a given deficiency under the No Action Alternative, that Build Alternative is considered to have a beneficial effect. In this analysis, a beneficial effect is considered to occur at a given circulation facility if the following two conditions are satisfied:

- The facility is forecast to operate at a deficient LOS in 2025 under the No Action Alternative.
- The facility is forecast to operate at an acceptable (non-deficient) LOS in 2025 under the given build Alternative.

The facilities where beneficial effects occur under the build Alternatives compared to the No Action Alternative are summarized in Table 3.4-5. Table 3.4-5 lists the locations identified as having deficiencies in the No Action Alternative and indicates under each build Alternative whether or not the deficiency is alleviated and, if so, under which scenario(s). The I-5 Alternative shows beneficial effects at 38 locations, or 76 percent of the 50 locations listed in Table 3.4-5. The build Alternatives that include the FTC-S from Oso Parkway to I-5 (the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives) show beneficial effects at 32 to 33 locations (64 to 66 percent of the 50 locations listed in Table 3.4-5), and the build Alternatives that include the FTC-S from Oso Parkway to Avenida La Pata (the CC-ALPV and A7C-ALPV Alternatives) show beneficial effects at 18 locations (36 percent of the 50 locations listed in Table 3.4-3). Beneficial effects occur at 6 locations (12 percent of the 50 locations) under the AIO Alternative.

5.3.1.2 Summary of Adverse Traffic Impacts

The adverse traffic impacts of the build Alternatives were identified by comparing 2025 peak hour traffic conditions based on the No Action Alternative with 2025 peak hour traffic conditions under each of the Build Alternatives. A facility on the circulation system is adversely impacted if the following two conditions are satisfied:

- The facility is forecast to operate at a deficient LOS in 2025 under the build Alternative.
- Compared to the No Action Alternative, the contribution to the deficient LOS by the build Alternative exceeds the impact thresholds discussed in Section 3.2.3.1 (Impact Criteria for Operations).

The adverse impacts of the Build Alternatives are separated into the following two categories:

- Direct adverse impacts.
- Indirect adverse impacts.

This distinction is important because it affects the manner in which mitigation measures are established. The following discusses these two types of adverse impacts.

Direct Adverse Impacts.

These are adverse impacts that have some form of identifiable connection or "nexus" with the circulation improvements featured in a given build Alternative. Typically, this type of impact occurs when the traffic causing the adverse impact uses at least part of the circulation facilities constructed and/or improved in that build Alternative. The build Alternatives that propose arterial road improvements beyond those shown in the MPAH are examples. Increased vehicle traffic on the improved arterials will use other local arterials in the vicinity to access the improved facilities and thereby add traffic on those other local arterials. As a result, there is a nexus between the added traffic on the improved facility and the traffic causing an impact on those other local arterials.

Indirect Adverse Impacts.

These adverse impacts occur as a result of a change in travel patterns due to a new facility that is constructed in a given build Alternative. While the impacts are generally small in magnitude, they are nevertheless adverse impacts under the defined performance criteria. The most common example occurs under a build Alternative in which the FTC-S diverts traffic from I-5, thereby reducing the level of congestion on I-5. As a result, vehicle traffic that may otherwise avoid I-5 would choose to use I-5, resulting in additional traffic at some ramps and ramp intersections serving I-5. While some I-5 ramps and ramp intersections are deficient under the No Action Alternative, a build Alternative may, in certain cases, worsen those deficiencies because of this additional traffic. Because none of this added traffic has origins or destinations in the vicinity of the circulation facilities that are constructed in the given build Alternative, the impacts of this added traffic are considered to be indirect. There is no direct nexus between this increased traffic and the facility being built in the given build Alternative, but simply a shift in travel routing due to I-5 having additional capacity compared to the No Action Alternative.

Table 3.4-6 summarizes the locations where direct and indirect adverse impacts occur under the build Alternatives compared to the No Action Alternative. As shown, no I-5 mainline segments in the study area are adversely impacted by the SOCTIIP build Alternatives. For the build Alternatives that include the FTC-S from Oso Parkway to I-5, no direct adverse impacts occur in the Alternatives with a FTC-S connection to I-5 via the Far East Corridor alignment (the FEC-M, FEC-W and A7C-FEC-M/Preferred

Alternatives), and direct adverse impacts occur at three locations in the Alternatives with a FTC-S connection to I-5 via the Central Corridor alignment (the CC Alternative). For the build Alternatives that include the FTC-S from Oso Parkway to Avenida La Pata (the CC-ALPV and A7C-ALPV Alternatives), direct adverse impacts occur at 10 locations. For the build Alternatives that do not include the FTC-S toll road, direct adverse impacts occur at 19 locations under the I-5 Alternative and 24 locations under the AIO Alternative.

5.3.1.3 Net Beneficial Effects and Adverse Impacts for Traffic

The following lists the build Alternatives in general order from those alternatives with the highest number of beneficial effects and lowest number of adverse impacts to those alternatives with the lowest number of beneficial effects and highest number of adverse impacts. Alternatives that are listed together have relatively the same magnitude of beneficial effects and adverse impacts.

- The build Alternatives that include the FTC-S toll road from Oso Parkway to I-5 (the FEC-M, FEC-W, CC and A7C-FEC-M/Preferred Alternatives) and the I-5 Alternative.
- The build Alternatives that include the FTC-S toll road from Oso Parkway to Avenida La Pata (the CC-ALPV and A7C-ALPV Alternatives).
- The AIO Alternative.

5.3.2 CUMULATIVE IMPACTS RELATED TO LAND USE

5.3.2.1 Cumulative Impacts Related to the Conversion of Undeveloped Land

The study area for potential cumulative adverse impacts related to land use is the area covered by the cumulative projects listed in Tables 5.1-1 to 5.1-5 and shown in Figure 5.1-1. Trends in south Orange County over the last 50 years have been for the development of previously vacant or agricultural lands in urban and suburban uses including residential, commercial, industrial and open space uses and lands committed to infrastructure (roads, utilities, schools, etc) in support of those urban and suburban land uses. The major land use projects in Table 5.1-1 and the OCP-2000 demographic projections continue the trend for the development of south Orange County in suburban and urban land uses.

The potential for the SOCTIIP and the cumulative projects in Tables 5.1-1 to 5.1-5 to contribute to or result in cumulative adverse impacts related to land use was identified based on consideration of trends related to land use and the potential for adverse land use impacts related to the cumulative projects in the study area (based on OCP-2000 and the cumulative projects lists) and the SOCTIIP build Alternatives. These projects are representative of recent past, present and future projects in the study area as discussed earlier in Section 5.1.3.

The cumulative development projects in OCP-2000 and as shown in Tables 5.1-1 to 5.1-5 would contribute to the conversion of some of the last remaining undeveloped land in south Orange County that is not dedicated to open space uses. Table 5.3.1 shows the impacts to land use and mitigation measures associated with those impacts as shown in environmental and planning documents for those projects.

Development of the RMV property is expected over the next 25 years, based on the 14,000 dus development plan proposed by the property owner. ~~As of September 2003, proposed development plans for the property provided only general information on the location and type of that proposed development on the RMV.~~ The County of Orange approved the RMV Planned Community (The Ranch Plan) in November 2004 after circulation of the SOCTIIP Draft EIS/SEIR. The Ranch Plan approved by the County is a conceptual-level plan, with development areas shows as "bubbles." The Plan, as appeared,

did not include a grading plan or show the specific placement of residential units or buildings. Open space reserves associated with the County's proposed Natural Community Conservation Plan (NCCP) are also assumed to be provided on the RMV although a wide range of NCCP Reserve systems is still under evaluation. In August 2005, the RMV company entered into a Settlement Agreement with several environmental organizations to resolve environmental challenges to the Ranch Plan. Under the terms of the Settlement Agreement, RMV will develop a maximum of 14,000 dwelling units and other uses, but development within certain of the development "bubbles" (Planning Area) is further restricted. The Ranch Plan, RMV's participation in the Southern Region NCCP and the Settlement Agreement provide for large-scale protection for a variety of natural communities, including wetland and riparian and coastal sage scrub communities. Seventy-five percent of the Ranch will remain in open space under the Settlement Agreement. The Ranch Plan will provide benefits to 32 identified species, including the California gnatcatcher and the arroyo toad. The Ranch Plan includes commitment to long-term adaptive management of the open space portions of the Ranch to insure the continued protection of the natural communities over the long-term.

All the SOCTIIP corridor Alternatives traverse RMV and, therefore, would contribute to a cumulative land use impact as a result of converting currently undeveloped land to an urban uses. The Arterial Improvements Only (AIO) Alternative would also incrementally contribute to cumulative impacts on the conversion of undeveloped land. However, this is not considered to be an adverse impact for two reasons. First, ~~except for the RMV property,~~ the study area is either developed or planned for development (refer to Section 6.4.2.2 in Growth Inducing Impacts). Second, the conversion of land to a road use for the corridor Alternatives would not change the overall balance of different land uses planned in the adopted forecast, OCP-2000. This is also consistent with the CMP and Growth Management Element requirements for the provision of infrastructure.

The Interstate 5 (I-5) Widening Alternative would not contribute to the conversion of undeveloped land because there is very little undeveloped land along this corridor. There would be no cumulative impacts to land use related to the conversion of undeveloped land to urban and suburban land under the I-5 Alternative and the No Action Alternatives. This is because this Alternative would not result in any construction of transportation improvements in currently undeveloped areas.

The two No Action Alternatives would not result in direct or indirect land use impacts because they would not result in the construction or implementation of any SOCTIIP related transportation improvements in the study area. The No Action Alternatives are not anticipated to affect planned land uses because the applicable local jurisdictions have required or will require those uses to include sufficient transportation facilities to meet their needs, independent of the SOCTIIP Alternatives.

5.3.2.2 Cumulative Impacts Related to Residential Uses

There is substantial existing development in the SOCTIIP study area, especially residential uses. Orange County in general suffers from a shortage of housing and, specifically, a shortage in affordable housing. The Southern California Association of Governments (SCAG) has identified a jobs-housing imbalance in this region, defined as when there are more jobs in an area than there is available housing to support those jobs.

The SOCTIIP build Alternatives which would affect existing residential uses or areas currently approved for residential uses are the Central Corridor-Complete (CC), Central Corridor-Avenida La Pata Variation (CC-ALPV), Alignment 7 Corridor-Avenida La Pata Variation (A7C-ALPV), AIO and I-5 Alternatives.

The remaining build Alternatives (Far East Corridor-West (FEC-W), Far East Corridor-Modified (FEC-M) and Alignment 7 Corridor-Far East Crossover-Modified (A7C-FEC-M) Alternatives) would not affect

existing residential uses ~~or areas currently approved for residential uses. However, these corridor Alternatives do cross RMV and could impact areas proposed for residential uses under the Ranch Plan. Because the Ranch Plan is in the planning stages and has no development approvals as of September 2003, this is not considered to be an adverse impact of these corridor alternatives because it is reasonable to assume that the proposed development, including residential uses, on the RMV could be adjusted to accommodate a corridor without a reduction in the total number of dus proposed under the Ranch Plan.~~ Similarly, the Preferred Alternative which is the A7C-FEC-M with modifications, would not affect existing residential uses.

The FEC-W, FEC-M, and A7C-FEC-M/Preferred Alternatives would, however, cross the RMV and could impact areas proposed for residential uses under The Ranch Plan. The County of Orange approved the RMV Planned Community (The Ranch Plan) in November 2004 after circulation of the SOCTIIP Draft EIS/SEIR. The Ranch Plan depicted an alignment of the FTC South as shown on the Master Plan of Arterial Highways; however, the property owner, RMV, acknowledged that if another alignment was selected as the Preferred Alternative, the development plan would need to accommodate the change. Therefore, subsequent actions by the TCA and other transportation agencies regarding the selection and implementation of a SOCTIIP Alternative will not adversely affect The Ranch Plan approvals already in place or the Plan as revised by the Settlement Agreement.

The Preferred Alternative is a refined alignment based on the A7C-FEC-M corridor alternative. The adjustments to the A7C-FEC-M Alternative reduce the total area within the disturbance limits (including proposed roadway and other improvements, as well as construction staging areas). The total area within the disturbance limits was 492 hectares (1,216 acres) for the A7C-FEC-M-Initial Alternative and 507 hectares (1,254 acres) for the Ultimate. The Preferred Alternative is 483 hectares (1,194 acres). The reduction in the total disturbance area limits results in a somewhat reduced cumulative impact to planned residential land uses.

In summary, there would be an adverse impact on residential uses as a result of those SOCTIIP build Alternatives which would result in the acquisition of existing housing or the acquisition of areas approved for housing as discussed in Section 5.3.4.1. Residential uses continue to be developed throughout Orange County, in Planned Communities (PCs) and infill/redevelopment projects. The loss of housing associated with the SOCTIIP Alternatives is somewhat offset by the continued development of housing throughout the County.

The two No Action Alternatives would not contribute to cumulative impacts on the housing shortage because they do not propose any SOCTIIP improvements and they would not require the acquisition of any land in the study area for any SOCTIIP improvements.

5.3.2.3 Cumulative Impacts Related to Other Major Land Uses in the SOCTIIP Study Area

San Onofre State Beach (SOSB)

The SOCTIIP Alternatives that traverse SOSB adversely impact this existing land use. These are the FEC-W, FEC-M and A7C-FEC-M/Preferred Alternatives. These cumulative impacts are due to the reduction of acreage of land for recreational uses as a result of these Alternatives. Past projects (I-5) have significant noise impacts on SOSB although the construction of I-5 pre-dated the establishment of SOSB. None of the other foreseeable cumulative projects would result in adverse impacts on SOSB or other public recreation uses in the study area. Therefore, the SOCTIIP Alternatives will not contribute to a cumulative adverse impacts on SOSB, but the SOCTIIP build Alternatives will incrementally contribute to the impacts of I-5 on SOSB. Refer to Section 5.3.25 (Cumulative Impacts Related to Recreation

Resources) for analysis of the potential cumulative impacts of the SOCTIIP Alternatives and other cumulative projects related to recreation resources.

MCB Camp Pendleton

MCB Camp Pendleton is a unique land use due to the military training conducted on the Base. The layout of the Base is designed to provide a safety buffer around the impact areas (areas where projectile weapons, explosive ordnance and artillery are used), which are located at the center of the Base. This buffer includes the SOSB outlease area. As discussed in Section 4.21 (Affected Environment, Impacts and Mitigation Measures Related to Military Uses), the Base is very sensitive to encroachment, notwithstanding that, in the March 4, 1992 "Statement of Intent," Camp Pendleton indicated that they could agree to the evaluation of an alignment on the Base, if that alignment met the conditions in the 1988 Commandant Letter and the 1992 "Statement of Intent." However, the SOCTIIP alignments which generally follow the FEC-M alignment would all have cumulative impacts to this land use by impacting the buffer that SOSB provides and creating a physical barrier on the northern boundary of the Base. These are the FEC-W, FEC-M and A7C-FEC-M/Preferred Alternatives. Although the area is leased now to the State for park use, the lease allows for military training activity to occur in this area with prior notice to the Department of Parks and Recreation. In addition, it is possible that in the future when the lease expires, the land could revert to active military training area. As discussed in Section 4.21, these Alternatives would further limit the ability of MCB Camp Pendleton to make use of the area by providing a physical barrier on the northern part of base, in essence causing a reduction in the total training area or potential training area on the Base. This reduction in training area would also be considered a cumulative adverse impact on the Base because training area on the Base is already limited and continues to be further limited by regulations and residential development encroachment as discussed in detail in Sections 4.21 and 5.3.18.1.

The remaining build Alternatives (A7C-ALPV, CC, CC-ALPV, AIO and I-5) and the No Action Alternatives do not propose any SOCTIIP improvements on the Base and would not extend onto or require acquisition of any property from Camp Pendleton. Therefore, these Alternatives would not contribute to a cumulative adverse impact related to land use.

In conclusion, there are cumulative land use impacts of the SOCTIIP build Alternatives. There are no cumulative land use impacts associated with the No Action Alternatives. Although as discussed earlier, the other cumulative projects (such as RMV) will have cumulative impacts. All of the SOCTIIP corridor Alternatives and the AIO contribute incrementally to the conversion of open space to urban land uses on RMV, but the impact is not adverse. The I-5 Alternative does not contribute to the conversion of open space. The CC, CC-ALPV, A7C-ALPV, AIO and I-5 Alternatives have adverse cumulative impacts on existing and planned housing. Finally, the FEC-W, FEC-M and A7C-FEC-M/Preferred would have adverse cumulative impacts on MCB Camp Pendleton by contributing to encroachment impacts on the northern part of the Base.

5.3.3 CUMULATIVE IMPACTS RELATED TO FARMLAND

5.3.3.1 Overview

The study area for cumulative impacts to farmland is the same as that defined for land use and as shown on Figure 5.1-1. However, impacts to agricultural lands are also a regional concern and this analysis is also discussed in terms of regional impact in the context of trends as well as impact in the study area.

Agricultural resources have been lost throughout Orange County, including south County, and north San Diego County, as result of the conversion of agricultural land to urban and suburban uses. The depletion

of agricultural resources throughout southern California is an adverse impact that, in most cases, cannot be fully mitigated. Although California provides incentives to retain farmlands for agricultural purposes under the Williamson Act, that policy does not guarantee the long-term preservation of agricultural lands. The development trends discussed in Section 5.1.3 have resulted in the rapid decline of agricultural uses and conversion of land to urbanized uses. As described in Section 4.3 (Affected Environment, Impacts and Mitigation Measure Related to Farmland), the County of Orange and MCB Camp Pendleton are the two agencies with land use authority over the agricultural resources in the SOCTIIP study area.

Some of the last remaining agricultural resources in Orange County are in the SOCTIIP study area. In addition, agricultural activities are conducted on several leased parcels on MCB Camp Pendleton. The loss of agricultural resources in these areas as a result of the SOCTIIP build Alternatives and other cumulative projects would be an adverse cumulative impact on those resources.

5.3.3.2 Cumulative Impacts on Agricultural Resources

The southern California basin has seen dramatic declines in land devoted to agriculture in recent decades. The strong economy and population growth will most likely continue or exacerbate this trend. Market forces such as competition from other agricultural areas and increased operations costs (e.g., water costs) continue the trend of declining agricultural land. Because the agencies governing landowners' abilities to convert these resources have no explicit policies or programs to guarantee protection of agricultural production or leases, all the SOCTIIP build Alternatives except the I-5 Alternative will contribute to cumulative adverse impacts on agricultural resources in southern California because these Alternatives all cross the RMV and would result in the permanent use of agricultural land for road purposes. However, the long-term viability of agricultural resources in the study area or the region may be affected by growth pressure regardless of whether a SOCTIIP build Alternative is built. In fact, the approved Ranch Plan would result in the removal of 266 acres of Prime Farmland, 32.9 acres of Farmland of Statewide Importance, and 528.3 acres of Unique Farmland. In the aggregate, development of the Ranch Plan would result in the loss of 827.2 acres of Important Farmland. In addition, the development of the Ranch Plan will result in the non-renewal of 1,856 acres under Williamson Act contract and in the associated Agricultural Preserve (upon renewal date), in addition to the 9,840 acres to be removed between December 31, 2005, and December 1, 2008, through the non-renewal process regardless of the Ranch Plan project. The No Action Alternatives and the I-5 Alternative do not propose improvements on RMV and would not contribute to cumulative adverse impacts related to agricultural resources.

The agricultural resources in the SOCTIIP study area that could be impacted by the SOCTIIP build Alternatives and other development in south Orange County have historically been successful in agricultural production. This is directly related to, among other factors, the quality of the soils of these areas. Agricultural soils are an irretrievable non-renewable resource, and conversion of these lands to non-agricultural uses would contribute to an increasing cumulative loss of this resource as a result of the SOCTIIP build Alternatives and other cumulative projects in the area.

The No Action Alternatives do not propose any SOCTIIP improvements and, therefore, there would be no loss of agricultural resources as a result of SOCTIIP improvements under the No Action Alternatives. The assumed MPAH and land use build out under the No Action Alternatives would result in the loss of agricultural uses in the SOCTIIP study area. However, there would be no SOCTIIP contribution to that cumulative adverse impact under the No Action Alternatives.

In conclusion all of the SOCTIIP build Alternatives except for the I-5 Alternative contribute to the conversion of agricultural lands and agricultural preserves to non-agricultural uses and therefore have cumulative adverse impacts to agricultural resources. The No Action Alternatives do not contribute to the cumulative loss or conversion of agricultural resources.

5.3.4 CUMULATIVE IMPACTS RELATED TO SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

As described earlier in Section 4.4 (Affected Environment, Impacts and Mitigation Measure Related to Socioeconomics and Environmental Justice), the SOCTIIP build Alternatives would result in adverse impacts related to socioeconomics during construction and operation. The Preferred Alternative would have the same impacts as the A7C-FEC-M Alternative related to socioeconomics. The socioeconomic impacts that would result from implementation of the other projects in the area are described in Table 5.3-2. "No Information Provided" indicates that the respective environmental document did not contain any information on this issue. Therefore, because it was not addressed in the environmental document that was prepared to evaluate the specific project, it was assumed there was no impact in the subject area. The study area is the same as for land use, as shown of Figure 5.1-1. This study area is appropriate for the analysis of socioeconomic and environmental justice impacts because it covers the area affected by the build Alternatives and other cumulative projects which could adversely affect the communities and residents in which these projects are located. Socioeconomic impacts include residential and non-residential displacements, community cohesion and economic impacts such as losses in sales tax revenues and changes in employment opportunities.

5.3.4.1 Residential and Non-Residential Displacements

The following SOCTIIP build Alternatives would displace residential and non-residential uses in the study area:

- FEC-M Alternative.
- FEC-W Alternative.
- CC Alternative.
- CC-ALPV Alternative.
- A7C-ALPV Alternative.
- A7C-FEC-M/Preferred Alternative.
- AIO Alternative.
- I-5 Alternative.

For the projects listed in Table 5.3-2 for which environmental documentation has been prepared, none have identified the displacement of substantial numbers of residential or non-residential uses. Moreover, because the majority of these projects are proposed for vacant land, displacement of existing uses is not anticipated for these projects. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, will not contribute to substantial cumulative adverse impacts related to residential and non-residential displacement in the study area.

While not directly identified in Table 5.3-2 it is anticipated that development of RMV will result in the displacement of active agricultural operations. Therefore, the above referenced SOCTIIP build Alternatives would cumulatively contribute to the displacement of agricultural operations in the study area.

However, the Ranch Plan and Settlement Agreement allocates approximately ~~60~~ 74 percent of the property to open space uses. Agricultural operations will be allowed in these areas. Thus, portions of the

property will potentially be available to accommodate agricultural operations displaced by SOCTIIP build Alternatives, as well as potential agricultural displacements caused by development of The Donna O'Neill Land Conservancy.

The No Action Alternatives would not result in any residential displacement because no property acquisition would occur under the No Action Alternatives. Therefore, the No Action Alternatives would not contribute to cumulative residential displacement.

5.3.4.2 Community Cohesion

The following SOCTIIP Alternatives would have an adverse impact on community cohesion because they will bisect existing communities and/or displace community facilities:

- CC Alternative.
- A7C-ALPV Alternative.
- I-5 Alternative.

Based on information provided in Table 5.3-2, none of the other cumulative projects for which environmental documentation has been prepared have identified adverse impacts to community cohesion. Moreover, because the majority of these projects are proposed for vacant land and are generally consistent with the adopted land use plans for these communities, disruption of community cohesion is unlikely as a result of these projects. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, will not contribute to substantial cumulative adverse impacts related to community cohesion in the study area.

The No Action Alternatives would not result in any SOCTIIP contributions to impacts on community cohesion because no structure would be built and no properties would be acquired. Therefore, no cumulative impacts to community cohesion would result because the No Action Alternatives do not contribute impacts that affect community cohesion.

5.3.4.3 Economic Impacts

All the SOCTIIP build Alternatives result in adverse economic impacts in one or more of the following areas: property, sales or transit occupancy tax revenues; loss of employment opportunities; established business districts; and capacity and lifespan of Prima Deshecha Landfill. These impacts are discussed in detail in Section 4.4. For the project listed in Table 5.3-2 for which environmental documentation has been prepared, none have identified adverse economic impacts. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, will not contribute to substantial cumulative adverse economic impacts in the study area.

The No Action Alternatives do not result in SOCTIIP contributions to any adverse cumulative economic impacts because there are no SOCTIIP improvements which result in any economic impacts under these Alternatives.

5.3.4.4 Environmental Justice

No SOCTIIP build or No Action Alternatives result in adverse environmental justice impacts. Specifically, these alternatives do not result in disproportionate adverse human health or environmental impacts on minority or low income populations in the SOCTIIP study area. For the projects listed in Table 5.3-2, for which environmental documentation has been prepared, no environmental justice impacts

were identified. Therefore, the SOCTIIP build and No Action Alternatives, when considered with these other projects, will not contribute to substantial cumulative adverse environmental justice impacts in the study area.

5.3.5 CUMULATIVE IMPACTS RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

The study area for cumulative impacts to pedestrian and bicycle facilities is the same as that defined for land use and as shown on Figure 5.1-1. Three proposed regional trails would be crossed by some of the alignments of the SOCTIIP build Alternatives as discussed in Section 4.5. The proposed San Juan Creek Trail extension, Cristianitos Trail and the Prima Deshecha Trails are regional riding and hiking trails shown in the County of Orange Master Plan of Regional Riding and Hiking Trails and in the County of Orange General Plan. Because these trails are proposed and no specific alignments have been identified for these trails, it is not possible to identify site specific impacts of the SOCTIIP alignments on these trails. However, any permanent impacts which would divide a trail and create a barrier towards continuous travel on the trail would be an adverse impact. Because the trail system has been affected in the past by other uses which affect the continuity of the trail system, impacts of the SOCTIIP Alternatives without mitigation would be considered to contribute to a cumulative adverse impact on trail continuity in south Orange County. However, accommodation for trail crossings is included in the mitigation for the SOCTIIP build Alternatives which cross these proposed trails. Because the SOCTIIP build Alternatives will include provisions to accommodate the trails, they will not result in cumulative adverse impacts to pedestrian and bicycle facilities.

Depending on the design of projects associated with build out of the MPAH and the land uses assumed under the No Action Alternatives, there may be some adverse short- and long-term impacts related to disruption of existing and planned trails. These potential impacts would contribute to a cumulative adverse impact on pedestrian and bicycle facilities. However, the No Action Alternatives do not have any SOCTIIP related impacts to pedestrian and bicycle facilities because they do no involve any construction of SOCTIIP improvements that would impact these facilities. Therefore, the No Action Alternatives would not contribute to cumulative adverse impacts related to pedestrian and bicycle facilities.

5.3.6 CUMULATIVE IMPACTS RELATED TO NOISE

The FHWA criteria for noise impacts are based on the peak noise hour, that is, the maximum hourly noise level generated by the highway. The traffic conditions used to calculate the peak hour noise levels for this assessment result in the highest theoretical hourly noise levels that can occur along the road. The peak noise hour conditions occur when the road experiences the greatest number of cars at free flow conditions. If there are fewer cars at free flow, the noise levels generated by the road will be lower. Adding more cars results in congestion and slower travel speeds than free flow. These lower travel speeds result in lower noise levels. Therefore, the noise impacts analysis is independent of how much traffic is actually projected for the road. Additional cumulative projects would either result in the actual noise levels approaching the conditions modeled for this assessment if the road is not congested (that is, the maximum number of cars at free flow conditions), or change the amount and/or time of congestion which does not affect quantification of the peak noise hour levels. Because other cumulative projects do not affect FHWA's definition of noise impacts as peak hour noise level, there are no cumulative impacts using the FHWA criteria.

The CEQA noise criteria are in terms of local municipalities' defined noise standards. The County of Orange and the cities in the SOCTIIP study area have established noise standards which are in terms of the Community Noise Equivalent Level (CNEL) measurement.

In terms of local municipalities' CNEL standards, the criteria for determining impacts are based on the noise level increase caused by a project in combination with the resulting absolute noise level. An impact occurs if a project results in a substantial noise increase and the when project noise level exceeds a local municipality's CNEL standards, as explained in detail below.

To cause a significant adverse impact, a project alternative must first cause a substantial increase in future CNEL levels at a sensitive receptor. A project alternative that causes a noise level increase of 3 dB or more is considered to result in a substantial noise increase. Changes less than one dB will not be noticeable to local residents. The increase in noise level caused by the project alternative is the difference in the future noise level with the project alternative and the future noise level without the project alternative. The increase in future noise levels with a project alternative, compared to existing conditions, is a result of both the project alternative and overall growth in the region. If the noise level increase over existing conditions is greater than 3 dB and the project alternative causes more than 1 dB of this increase, that project alternative is considered to result in a substantial combined noise increase. If either increase is realized, a second condition must occur for a significant adverse noise impact to result from the project alternative.

The second condition that must occur for an impact to be considered significant and adverse in terms of the local municipalities' CNEL standards is that the increase results in a future noise level which exceeds the local municipalities' CNEL standard. All the municipalities in south Orange County have established an exterior residential CNEL standard of 65 CNEL. The County does not have an applicable noise standard relating to parks. However, all the Cities in the study area have established a 65 CNEL noise standard for parks. In some Cities, the park standard is only applicable at picnic areas and in others it is applicable at picnic areas, playgrounds and areas of frequent human activity. For this analysis, the broader scope of the standard was assumed and noise levels were evaluated at potentially impacted park picnic areas, playgrounds and areas of frequent human activity.

Analysis of impacts in terms of local municipalities' CNEL standards is applicable to areas along new roads constructed by the SOCTIIP Alternatives and along existing roads that would be modified by the SOCTIIP Alternatives (i.e., addition of lanes). It is also applicable to roads that would not be physically modified by the SOCTIIP Alternatives but on which traffic volumes would change as a result of the SOCTIIP Alternatives.

Cumulative noise impacts under CEQA for the proposed SOCTIIP are analyzed with the traffic scenarios that assume build out of the MPAH and other reasonably foreseeable projects. This includes three traffic scenarios, with RMV developed with 14,000 dus, RMV developed with 21,000 dus and RMV developed with 21,000 dus and all of the toll roads in Orange County operating toll-free (the first two scenarios assume the toll roads operating under existing with tolls conditions). The Ranch Plan as approved in the Settlement Agreement allows for the development of 14,000 dwelling units and approximately five million square feet of commercial and industrial building space. The Ranch Plan EIR found that the project would not result in any significant project-specific traffic noise impact on surrounding land uses, but that the project contribution to cumulative noise would result in significant traffic noise impacts. All impacts were mitigated to a level of less than significant, except for cumulative noise impacts on Camino Capistrano north of Junipero Serra. The cumulative impacts for noise parallels the methods and assumptions for the traffic analysis and is based on full build out in accordance with adopted forecasts and projections. The traffic analysis in Section 3.0 includes reasonable foreseeable projects. The noise analysis incorporates traffic generated from the foreseeable projects and projected land use changes. Consequently, the cumulative analysis for the mainline of the SOCTIIP Alternative is included in the long-term impact analysis discussed in Section 4.6.3.

To address cumulative impacts for noise along the transportation network that is not physically altered by the SOCTIIP build Alternatives, it is possible to separate the noise contribution from the SOCTIIP Alternative and the No Action Alternative and existing conditions. This analysis includes development of recent past, present and future development as described in Section 5.1.3 and listed in Table 5.1-1.This information is presented below. To assess cumulative noise impacts along roads not physically altered by the SOCTIIP build Alternatives, analysis was prepared for each traffic scenario. The analysis of cumulative noise impacts along the alignments of the SOCTIIP build Alternatives is for the worst case scenario. Therefore, this analysis represents both cumulative and project specific impacts.

The study area for cumulative noise impacts is the same as the traffic study area as defined in Section 5.3.1 (Cumulative Impacts Related to Traffic and Circulation).

5.3.6.1 Cumulative Noise Impacts by Alternative

FEC-M Alternative

Traffic Scenario Assuming MPAH Build Out and 14,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the FEC-M Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV. This condition occurs along nine segments. Noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with the FEC-M Alternative. Therefore, the FEC-M Alternative would not result in significant adverse noise impacts along these segments under CEQA.

The analysis shows that there will be substantial cumulative noise increases along four segments. However, the FEC-M Alternative does not contribute considerably to these increases. The increases due to this alternative would not result in the 65 CNEL standard to be exceeded at these residences. Further, the FEC-M Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the FEC-M Alternative will not result in any significant cumulative adverse noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the FEC-M Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV. This condition occurs along six segments. Noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the FEC Alternative would not result in cumulative adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along one segment. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the FEC-M Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the FEC Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assume MPAH build out and 21,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out, 21,000 dus at RMV and Toll Free Operation for All Toll Roads

Road segments were analyzed that are not physically altered by the project where the FEC-M Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV and toll-free conditions, with the existing tolls roads and the FEC-M Alternative operating toll free. This condition occurs along ten segments. There are substantial cumulative noise increases where this Alternative contribute considerably along four of these segments. Detailed analysis of future noise levels along these road segments with the FEC-M Alternative was performed. The analysis found that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the FEC Alternative would not result in adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along four segments. However, this Alternative does not considerably contribute to these increases. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the FEC Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

Because this Alternative considerably contributes to the increase along one segment (Pico east of Hermosa), detailed analysis of the future noise levels along this segment was performed. This analysis found that at a stretch of the residences along this segment future noise levels would exceed 65 CNEL with the FEC-M Alternative. The 65 CNEL noise level would not be exceeded at these select residences without this Alternative and with 14,000 dus at RMV, but with 21,000 dus, the noise level would exceed 65 CNEL at these residences. However, the FEC Alternative does not perceptibly increase the noise levels at these residences and, therefore, does not result in a significant adverse noise impact under CEQA.

In summary, the FEC-M Alternative will not result in significant cumulative adverse noise impacts along roads not physically altered by this Alternative for the traffic scenario which assume MPAH build out and 21,000 dus at RMV under toll free conditions.

FEC-W Alternative

As documented in the traffic study, the traffic volumes on the roadway network under the FEC-W Alternative would be the same as under the FEC-M-Initial and Ultimate Alternatives. Therefore, the analysis of noise impacts along roadways not physically altered by the project for the FEC-M Alternative, as described previously, also applies to the FEC-W Alternative. That analysis shows that the FEC-W Alternative would not result in any significant cumulative noise impacts along roadways not physically altered by this Alternative.

CC Alternative

Traffic Scenario Assuming MPAH Build Out and 14,000 dus RMV

Road segments were analyzed that are not physically altered by the project where the CC Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assume MPAH build out and 14,000 dus at RMV. This condition occurs along eight segments. The analysis shows that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the CC Alternative would not result in significant adverse noise impacts along these road segments under CEQA.

The analysis also shows that there will be substantial cumulative noise increases along four segments. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the CC Alternative do not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

Because this Alternative considerably contribute to the increase along one segment east of Hermosa), detailed analysis of the future noise levels along this segment was performed. However, the CC Alternative does not perceptibly increase the noise levels at these select residences and, therefore, do not result in a significant adverse noise impact.

In summary, the CC Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the CC Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV. This condition occurs along seven segments. The analysis found that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the CC Alternative would not result in adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along two segments. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the CC Alternative do not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

Because this Alternative considerably contributes to the increase along one segment, detailed analysis of the future noise levels along this segment was performed. However, the CC Alternative does not perceptibly increase the noise levels at these residences and, therefore, does not result in a significant adverse noise impact under CEQA.

In summary, the CC Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV and Toll Free Operation for All Toll Roads

Road segments were analyzed that are not physically altered by the project where the CC Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV under toll-free conditions, with all the existing toll-roads and this Alternative operating toll free. This condition occurs along nine segments. This analysis accounted for the location of existing noise sensitive land uses relative to the roads, existing noise barriers and topography. The analysis found that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the CC Alternative would not result in adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along two segments. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the CC Alternative do not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

Because this Alternative considerably contributes to the increase along one segment (Pico east of Hermosa), detailed analysis of the future noise levels along this segment was performed. However, the CC Alternative does not perceptibly increase the noise levels at these residences and, therefore, does not result in an adverse noise impact.

In summary, the CC Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 21,000 dus on RMV under toll free conditions.

CC-ALPV Alternative

Traffic Scenario Assuming MPAH Build Out and 14,000 dus at RMV

The roadway segments not physically altered by the project where the CC-ALPV Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH buildout and 14,000 dus at RMV were evaluated. This condition occurs along twelve segments. There are substantial cumulative noise increases where this Alternative contribute considerably along four of these segments. The analysis found that the noise levels at the existing noise sensitive receptors willwould not exceed 65 CNEL with this Alternative. Therefore, the CC-ALPV Alternative would not result in significant noise impacts along these segments.

The analysis shows that there would be substantial cumulative noise increases along five segments. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the CC-ALPV Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

Because this Alternative considerably contributes to the increase along segment (Pico east of Hermosa), detailed analysis of the future noise levels along this segment was performed. However, the CC-ALPV Alternative does not perceptibly increase the noise levels at these residences and, therefore, does not result in a significant noise impact.

In summary, the CC-ALPV Alternative would not result in any significant cumulative noise impacts along roadways not physically altered by this Alternative for the traffic scenario which assumes MPAH buildout and 14,000 dus at RMV.

A7C-ALPV Alternative

As documented in the traffic study, the traffic volumes on the roadway network under the A7C-ALPV Alternative would be the same as the volumes under the CC-ALPV Alternative. Therefore, the analysis of impacts along roadways not physically altered by the project also applies to the A7C-ALPV Alternative. That analysis shows that the A7C-ALPV Alternative would not result in any significant cumulative noise impacts along roadways not physically altered by this Alternative.

A7C-FEC-M Alternative (Preferred Alternative)

The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As stated below, cumulative impacts of the Preferred Alternative related to noise would be the same as the impacts of the A7C-FEC-M-Initial Alternative. Modifications to the corridor are not sufficient to change the conclusions provided in the Draft EIS/SEIR or to require additional mitigation.

Traffic Scenario Assuming MPAH Build Out and 14,000 dus at RMV

The A7C-FEC-M/Preferred Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV. This occurs along eight segments. The analysis found that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the A7C-FEC-M/Preferred Alternative would not result in adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along three segments (with existing nearby noise sensitive land uses. It is unlikely that the increases due to this alternative would result in the 65 CNEL standard to be exceeded at these residences. Further, the A7C-FEC-M/Preferred Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the A7C-FEC-M/Preferred Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV, as approved by the County Board of Supervisors in 2004 and in the subsequent Settlement Agreement.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the A7C-FEC-M/Preferred Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV. This condition occurs along six segments. The analysis found that the noise levels at the existing noise sensitive receptors will not exceed 65 CNEL with this Alternative. Therefore, the A7C-FEC-M/Preferred Alternative would not result in adverse noise impacts along these segments.

The analysis shows that there will be substantial cumulative noise increases along two segments (with existing nearby noise sensitive land uses. It is unlikely that the increases due to this alternative would

result in the 65 CNEL standard to be exceeded at these residences. Further, the A7C-FEC-M/Preferred Alternative do not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the A7C-FEC-M Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV.

AIO Alternative

Traffic Scenario Assuming MPAH Build Out and 14,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the AIO Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV. This condition occurs along three segments.

The analysis shows that there will be substantial cumulative noise increases along two segments (with existing nearby noise sensitive land uses. Because the AIO Alternative considerably contributes to the increase along these two segments, detailed analysis of the future noise levels along these segments was performed. This analysis found that future noise levels would not exceed 65 CNEL at any residences along these segments with the AIO Alternative. Further, the AIO Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the AIO Alternative will not result in significant adverse cumulative noise impacts under CEQA along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the AIO Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV. This condition occurs along five segments. There are no substantial cumulative noise increases to which the AIO Alternative contributes considerably.

The analysis shows that there will be substantial cumulative noise increases along two segments. Because the AIO Alternative considerably contributes to the increase along these two segments, a detailed analysis of the future noise levels along these segments was performed. This analysis found that future noise levels would not exceed 65 CNEL at any residences along these segments with the AIO Alternative. Further, the AIO Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the AIO Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by the project for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV.

I-5 Alternative

Traffic Scenario Assuming MPAH Build Out and 14,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the I-5 Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV. This condition occurs along four segments. There are no substantial cumulative noise increases where the I-5 Alternative contributes considerably.

The analysis shows that there will be substantial cumulative noise increases along four segments. Because the I-5 Alternative considerably contributes to the increase along one segment, detailed analysis of the future noise levels was performed for noise sensitive uses along this segment. This analysis found that future noise levels would not exceed 65 CNEL at any residences along this segment with the I-5 Alternative. Along some segments, some residences may experience future noise levels in excess of 65 CNEL with the I-5 Alternative. However, the I-5 Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the I-5 Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by this Alternative for the traffic scenario which assumes MPAH build out and 14,000 dus at RMV.

Traffic Scenario Assuming MPAH Build Out and 21,000 dus at RMV

Road segments were analyzed that are not physically altered by the project where the I-5 Alternative would result in a 1 dB increase over no project conditions or a 3 dB increase over existing conditions and any increase over no project conditions for the traffic scenario which assumes MPAH build out and 21,000 dus at RMV. This condition occurs along seven segments listed below. There are no substantial cumulative noise increases where the I-5 Alternative contributes considerably.

The analysis shows that there will be substantial cumulative noise increases along seven segments. Because the I-5 Alternative considerably contributes to the increase along one segment detailed analysis of the future noise levels was performed for noise sensitive uses along this segment. This analysis found that future noise levels would not exceed 65 CNEL at any residences along this segment with the I-5 Alternative. Some residences may experience future noise levels in excess of 65 CNEL with the I-5 Alternative. However, the I-5 Alternative does not increase noise levels enough to cause the noise levels to noticeably exceed the noise level that would occur without this Alternative.

In summary, the I-5 Alternative will not result in significant adverse cumulative noise impacts along roads not physically altered by the project for the traffic scenario which assumes MPAH build out and 21,000 dus RMV.

Conclusion

None of the SOCTIIP build Alternatives would contribute to cumulatively adverse noise impacts under any of the development assumptions examined (i.e., 14,000 and 21,000 dus with or without tolls). The No Action Alternatives do not contribute cumulatively to the noise environment in the SOCTIIP study area. The other development associated with the buildout of the MPAH would contribute to the cumulative noise environment, but would be required to mitigate those noise impacts if they resulted in the exceedance of adopted noise standards. Notwithstanding the fact that the SOCTIIP build Alternatives will not contribute to cumulative impacts based on defined standards, perceptibility of noise increase or

exceeding the 65 dB CNEL standard, the noise environment in the study area will change, in some cases substantially, due to the presence of more noise sources, i.e., development associated with the cumulative projects shown on Table 5.1-1. The primary noise source is traffic on new roadways including the SOCTIIP build Alternatives.

5.3.7 CUMULATIVE IMPACTS RELATED TO AIR QUALITY

As discussed in Section 4.7 (Affected Environment, Impacts and Mitigation Measures Related to Air Quality), air quality impacts, which are derived from the traffic impacts assessment, were evaluated under a range of assumptions related to traffic and circulation. Air quality, like traffic, is an environmental parameter for which the impact analysis is inherently cumulative because air quality impacts are based on build out consistent with adopted demographic forecasts and projections. This is also consistent with the development trends discussed in Section 5.1.3 and shown on Table 5.1-1. The study area included most of the South Coast Air Basin (SCAB) and segments in the northern San Diego County which are in the northern reaches of the San Diego Air Basin. These segments of San Diego County share similar meteorological conditions with the adjacent Orange County areas. Refer to the analysis in Section 4.7 which includes the cumulative air quality impact of the SOCTIIP Alternatives and other land use assumptions.

In summary, all alternatives, except the No Action Alternatives, will result in an increase of emissions during construction. This increase in emissions is projected to be substantial for all pollutants.

The potential long-term air quality impacts of the SOCTIIP build Alternatives have been evaluated with respect to various roadway networks and Rancho Mission Viejo (RMV) development levels. The regional/subregional analysis focused on the committed roadway network with RMV developed at 14,000 dwelling units. Cumulative impacts are a concern with the further development of the roadway network to the full MPAH/RTP and the expanded development of RMV to 21,000 dwelling units. Analyses of these scenarios with RMV at 21,000 dwellings and the buildout of the MPAH/RTP have been presented previously in this report (refer to Section 4.7 in the EIS/SEIR), however, the results are presented again to highlight the cumulative nature of the buildout of the roadway network (MPAH/RTP) and the highest potential for development of RMV.

The Ranch Plan as approved in the Settlement Agreement allows for the development of 14,000 dwelling units and approximately five million square feet of commercial and industrial building space. The Ranch Plan EIR found that the project would result in significant construction-related air quality impacts that would remain significant after mitigation. The Ranch Plan EIR also found that the project would result in significant operational air quality effect impacts that would remain significant after mitigation.

Alternatives with a substantial decrease in hydrocarbons include the FEC-W, FEC-M, CC and the A7C-FEC-M/Preferred. Additionally, all toll-free scenarios that were assessed showed a substantial decrease in HC emissions. Decreases are also shown for CO to varying degrees for all the build Alternatives. The toll free conditions result in the largest CO emission decreases.

All the SOCTIIP build Alternatives have increases in NOx emissions above the SCAQMD criteria and these increases are considered to be cumulatively adverse. The AIO Alternative has the lowest increase in NOx emissions. The I-5 Widening Alternative will generate the most NOx emissions of the non-toll free conditions. The toll free conditions result in the highest increases in NOx emissions, and these increases would be considered cumulatively adverse.

5.3.8 CUMULATIVE IMPACTS RELATED TO WATER RESOURCES (FLOODPLAINS, WATERWAYS AND HYDROLOGIC SYSTEMS, AND WATER QUALITY)

Over the past 50 to 100 years, Orange County has undergone a dramatic change in the landscape. The smaller cities, towns, agricultural communities and ranching interests that once dominated the landscape have been substantially converted to suburban communities and public infrastructure. This development trend is discussed in Section 5.1.3 and shown in Table 5.1-1. With this land conversion and transformation, there has been a substantial loss of native plant communities, wildlife habitat, natural streambeds and surface water features. The conversion has taken place in South County, most substantially since the 1970s, and has resulted in less open space, fewer opportunities for wildlife forage and breeding and replacement of softscape/naturalized floodplains to storm drain systems and flood control conveyance facilities. The cumulative transformation that has occurred has put pressures on the County's natural and water resources that comprise the remaining watersheds. Consequently, existing projects and future projects that contribute to the transformation represent a more profound impact on remaining resources as a result.

Build out of the study area, based on adopted forecasts and General Plan build out was used for the assessment of cumulative water resources impacts in the parts of Orange, Riverside and San Diego Counties. For water resources, the SOCTIIP study area extends throughout six regional watersheds. These watersheds include Aliso Creek, San Juan Creek, Prima Deshecha Cañada, Segunda Deshecha Cañada, San Mateo Creek and San Onofre Creek. This total watershed area is nearby 1,036 sq km (400 sq mi). This includes the projects listed in Table 5.1-1 which provides a summary of major cumulative projects in the SOCTIIP study area regional watersheds. The cumulative analysis was conducted as part of the future with-project analysis. Two different future conditions scenarios were analyzed with respect to RMV: a 14,000 dus scenario and a 21,000 dus scenario. The study area for cumulative water resources impacts is the area covered by the watersheds in south Orange County as shown earlier in Figure 4.8-1. The development projects listed in Tables 5.1-1 to 5.1-5 are the primary development projects in these watersheds and were used to develop the future condition for the watersheds in the water resources analyses.

If unmitigated, cumulative build out of the County as projected will have a cumulative adverse impact on the hydrologic, water quality, erosion/sedimentation potential and groundwater resources in the watersheds in the cumulative projects study area. At the regional and local levels, these impacts may include increase in discharge, runoff volume, runoff velocity; erosion and sedimentation; water quality degradation; and impacts on groundwater levels and quality. For example, at specific crossings such as San Juan Creek, the CC, CC-ALPV and AIO Alternatives could exacerbate long-term erosion and deposition if sand and gravel mining operations resume. However, it is anticipated that all future projects in these watersheds will need to comply with a similar (or in some instances more stringent) set of hydrology and water quality guidelines and regulations as the SOCTIIP Alternatives and, therefore, will need to provide adequate mitigation measures to avoid or reduce these impacts. Table 5.3-3 provides a brief summary of these projects and recommended mitigation measures for the projects, as they relate to water resources.

The Ranch Plan as approved in the Settlement Agreement allows for the development of 14,000 dwelling units and approximately five million square feet of commercial and industrial building space. The Ranch Plan EIR found that the project would result in impacts to water resources that were reduced to below a level of significance with mitigation, including increases in the rate and amount of surface flow runoff; reduced coarse sediment yields within certain sub-basins; alteration of certain in-channel sediment transport processes; adverse effects to storm water quality, groundwater quality and increases in stream temperature; and water balance within the affected watersheds and sub-basins. The EIR found that

implementation of the project would result in significant and unavoidable impacts in the amount of pathogens entering into stormwater runoff.

5.3.8.1 Discharge

Tables 4.8-1 through 4.8-29 provide a summary of local and regional drainage areas analyses results for the watersheds in the SOCTIIP study area. Runoff from the SOCTIIP build Alternatives will be isolated from local runoff and will be collected and treated in detention basins prior to release to other watercourses. With two exceptions, the hydrologic analysis points had only minor increases in discharge for the future condition. Cañada Gobernadora, which has a tributary of about 22 sq km (8.5 sq mi), had a moderate increase in drainage due to future conditions and Segunda Deshecha Cañada characterized by relatively small tributary areas (6 to 7 sq km (2.3 to 2.7 sq mi)), is projected to experience major discharge increases as a result of the cumulative projects, including the SOCTIIP build Alternatives and the No Action Alternatives.

5.3.8.2 Floodplains

Based on the hydrologic data for future watershed conditions, impacts to floodplains were evaluated at selected hydrologic analysis points to determine cumulative effects of the SOCTIIP. Analysis points which underwent an increase in discharge of greater than 10% had additional water surface elevation increases up to 0.8 m (3 ft). The analysis point at Cañada Gobernadora that resulted in a discharge increase between 5 and 10% had an impact of approximately 0.03 m (0.1 ft). The remainder of the points, which had increases of less than 5%, had water surface elevation impacts of less than 0.03 m (0.1 ft). As a result of these findings, it is anticipated that the SOCTIIP Alternatives, in combination with future development, could potentially cause substantial cumulative impacts if unmitigated imperviousness due to future development in watersheds increases more than 10%. However, if increased runoff due to future development is either mitigated (as required by the Regional Water Quality Control Board), or if increases in imperviousness are held below the 5% threshold, cumulative impacts to floodplains are less than adverse. The addition of impervious surfaces, due to the SOCTIIP Alternatives were determined to be generally less than two or three percent. Although this is not a substantial change, it must be acknowledged that this is a cumulative change over existing conditions because so much of the area is undeveloped. No substantial adverse cumulative impacts would occur under the SOCTIIP build Alternatives for floodplains.

5.3.8.3 Hydrology/Water Quality

Following are the conclusions from the RMP (Psomas 2003):

> "If unmitigated, the cumulative projects listed in Table 5.1-1 may have a significant adverse impact on the hydrologic, water quality, erosion/sedimentation potential, and groundwater resources of the SOCTIIP project alternatives watersheds. At a regional and local level, these impacts may include increase in discharges, runoff volumes, runoff velocities; erosion and sedimentation increases; water quality degradation; and impacts on groundwater levels and quality. However, it is anticipated that all future projects in these watersheds will need to comply with a similar (or in some instances more stringent) set of water quality guidelines and regulations as the SOCTIIP project alternatives and therefore, will need to provide adequate mitigation measures to completely negate these impacts."

Groundwater recharge will not be substantially impacted by the SOCTIIP Alternatives due to the very small percentage of impervious surface in a given watershed as well as the way runoff is treated. All off

site runoff is returned to the environment and all on site runoff is detained and treated in the extended detention basin, and then is returned to the environment, generally within the same location.

No substantial adverse cumulative impacts would occur under any of the SOCTIIP build Alternatives in the areas of floodplains, hydrology, water quality and ground water. However, with regard to discharges, Cañada Gobernadora, which has a tributary of about 22 sq km (8.5 sq mi), had a moderate increase in drainage due to future conditions and Segunda Deshecha Cañada, characterized by relatively small tributary areas (6 to 7 sq km (2.3 to 2.7 sq mi)), is projected to experience major discharge increases as a result of the cumulative projects, including the SOCTIIP build Alternatives. However, these increases are mitigated through design measures for the SOCTIIP build Alternatives. It is anticipated that all future projects in these watersheds will need to comply with a similar (or in some instances more stringent) set of water quality guidelines and regulations as the SOCTIIP Alternatives and, therefore, will provide adequate mitigation measures to avoid or reduce these impacts.

Unlike a residential or commercial development, none of the SOCTIP Alternatives would be a source of pathogens (such as animal waste and sewage) and would not provide the support for pathogen growth (such as excessive moisture and nutrients). Therefore, the treatment BMPs proposed for the Preferred Alternatives (see Section 4.9) would be sufficient to adequately remove pathogen pollutant loads that would be washed off the alternatives infrastructure during storms and the SOCTIIP build Alternatives would not contribute to the significant water quality effects associated with development of the Ranch Plan.

5.3.9 CUMULATIVE IMPACTS RELATED TO BIOLOGICAL RESOURCES (WETLANDS AND WATERS OF THE UNITED STATES, WILDLIFE, FISHERIES AND VEGETATION, AND THREATENED AND ENDANGERED SPECIES)

5.3.9.1 Context of Cumulative Impact Assessment

At the time the Draft EIS/SEIR was distributed, parts of south Orange County contained some of the last substantial remaining unplanned areas in the County as development has progressed inland and east from the coast. In contrast with other parts of the County, where land use decisions have been made regarding the locations of development and open space, the RMV land in south Orange County ~~i~~was in the midst of a decision making process ~~that is~~ anticipated to result in the designation of areas for development and open space for the remaining currently undeveloped and unplanned areas in this part of the County. Orange County has also approved the RMV Ranch Plan, allowing for the development of 14,000 dwelling units and approximately five million square feet of commercial and industrial building space. The RMV Ranch Plan and the subsequent Settlement Agreement between RMV, the County and the environmental organizations will retain 75 percent of the Ranch in open space uses. Over the past 50 to 100 years, Orange County has undergone a dramatic change in the landscape. The smaller cities, towns, agricultural communities and ranching interests that once dominated the landscape have been substantially converted to suburban communities and public infrastructure. With the conversion and transformation has been a substantial loss of native plant communities, wildlife habitat, natural streambeds and quality surface water features. The conversion has taken place in south County most significantly since the 1970s and has resulted in less open space, fewer opportunities for wildlife forage and breeding, and replacement of softscape/naturalized floodplains to storm drain systems and flood control conveyance facilities. The cumulative transformation that has occurred has put pressures on the County's natural and water resources that comprise the remaining watersheds. Consequently, existing projects and future projects that contribute to the transformation represent a more profound impact on remaining resources.

Orange County retains approximately 41,715 hectares (ha) (103,000 acres (ac)) of open space. Some of this open space has been disturbed, from a biological perspective, to support agriculture or to provide

recreation uses. Residential development comprises almost 59,555 ha (147,000 ac), commercial development occupies 10,125 ha (25,000 ac), and industrial development has converted 7,695 ha (19,000 ac) (Source: http://www.orangecounty.net/pdf/facts.pdf-svvrddrf 11/03). As a result of this development and disturbance, severe habitat fragmentation has occurred, species have been listed for protection under various state and federal laws, and the functions and values of wetland communities have been limited by channelization or restriction.

The context of cumulative impacts on endangered and threatened species of plants and animals is summarized in Table 5.3-4. Table 5.3-4 provides information on species that have been observed, or for which critical habitat has been designated, in the study area. The fact that these species require state and/or federal protection indicates that their historic ranges and populations generally have been severely depleted.

5.3.9.2 Methodology of Cumulative Impact Assessment

The cumulative impact analysis examines the impacts of past, present and reasonably foreseeable future actions within the study area. The study area includes all undeveloped lands and planned communities within the Southern Orange County Subregion, as designated by the ongoing South Orange County Coordinated Planning Process (SOCCPP) under the NCCP Act, the General Plans and OCP-2000. From a biological perspective, this geographic area was considered appropriate because (1) this area encompasses the SOCTIIP alternatives, (2) southern Orange County is identified by the California Department of Fish and Game (CDFG) as a separate biological subregion under the Natural Community Conservation Planning Program, and (3) it includes those projects that, along with the SOCTIIP build Alternatives, could result in or contribute to cumulative adverse impacts. Although the study area includes primarily southern Orange County, it is important to recognize that northern San Diego County is also encompassed within the SOCTIIP study area. All alternatives have been evaluated with northern San Diego resources considered in the impact analysis.

Table 5.3-5 lists the projects considered to be reasonably foreseeable within the study area. Table 5.3-5 also summarizes the impacts on biological resources, and mitigation measures as reported in draft and final environmental documents and best available information for these impacts.

RMV is included in these tables~~, although the planning and environmental review processes for the project have not been completed~~. The County of Orange approved the RMV Planned Community (The Ranch Plan) in November 2004 after circulation of the SOCTIIP Draft EIS/SEIR. Subsequent to this action, a Settlement Agreement plan was approved to further address the sub-basin-level Guidelines and Principles in addition to the overall goals and objectives of the Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) and Special Area Management Plan (SAMP) Programs. The RMV planning process ~~will~~ involves a number of regulatory resource agencies, including the United States Army Corps of Engineers (ACOE), United States Fish and Wildlife Services (USFWS), CDFG, and the California Coastal Commission (CCC). Various development plan alternatives and preserve concepts ~~are being~~were considered as part of the Southern Subregion (Orange County) Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) South Subregion (Orange County) process. The NCCP process includes USFWS and CDFG as the agencies responsible for administering endangered species regulations. The County of Orange has an important role as lead agency under CEQA, as well as RMV (the majority landowner). A Special Area Management Plan (SAMP) is also being prepared to integrate the wetlands planning concurrently with endangered species issues.

RMV is the largest landholding in the study area, encompassing approximately 9,308 ha (23,000 ac). The Settlement Agreement plan allows for the development of 5,873 acres of the 22,815-acre RMV Planning

Area with up to 14,000 residential dwelling units (of which 6,000 are to be senior housing units), urban activity center uses, business park uses, neighborhood retail uses, and golf course uses. Over 16,000 acres would be retained in open space. The Ranch Plan as approved in the Settlement Agreement will conserve open space directly connected to adjacent open space in Caspers Wilderness Park, Cleveland National Forest and MCB Camp Pendleton. Ranching activities would also be retained within a portion of the proposed open space area. Infrastructure would be constructed to support all of the proposed uses, including road improvements, utility improvements, and schools. Existing agriculture uses may also be expanded within defined areas subject to certain restrictions concerning the protection of biological resources. The future development of this property will ultimately determine the size and design of the reserve system proposed for the Southern Orange County Subregion under the SOCCPP. While eight reserve alternatives have been proposed, several alternatives have been considered and rejected from further consideration by the SOCPP. Information on the Alternatives is taken from the "Alternatives Selection Rationale" (5-14-03) on the SOCCP website. It was "...determined that four of the eight alternatives combine to represent a reasonable range of alternatives as defined by NEPA and CEQA and should receive continuing evaluation as CEQA and NEPA alternatives. These alternatives are B-4, B-5, B-6 and B-8. These alternatives may be revised or modified as a result of ongoing evaluations and public input. These four alternatives are diverse enough to represent a reasonable range of alternatives in terms of the size, location and configuration of proposed reserve designs and allowable future development. These alternatives have yet to be evaluated for economic and environmental feasibility. Such analyses will occur in the EIS/EIR phase of the program." (Alternatives Selection Rationale.) Of the mapped reserve alternatives under consideration by the SOCPP, two are discussed in detail in this analysis: Reserve Alternatives B-4 and B-8. Reserve Alternative B-4 is analyzed because it represents RMV's preferred alternative. Reserve Alternative B-8 is analyzed because it provides for a larger reserve. Alternatives B-5 and B-6 provide different configurations and limits on the location of development. Therefore, Alternatives B-4 and B-8 encompass the spectrum of land area developed and preserved by the alternatives. These Alternatives, and their impacts on biological resources, are discussed in Section 5.3.9.3, below.

Alternatives B-5, B-6 and B-8 "...may require either a voluntary sale by RMV or condemnation of RMV and other lands (e.g., power lines) for open space acquisition." The Resource Agency "...policy is to pursue acquisition from willing sellers." Alternative B-4 "represents the only alternative that would not require significant acquisition of RMV lands by local/state/federal agencies for purposes of assembling a habitat reserve system." (Alternatives Selection Rationale.)

This analysis of cumulative effects relies substantially on field data gathered during survey efforts for the SOCTIIP alignments and information published by the SOCPP, as well as historical data obtained from state and federal resource agencies. Although population totals of the sensitive species in the study area are not known at this time, a general discussion of landscape level and potential habitat cumulative effects is provided, based on the proposed reserve alternatives and the magnitude of habitat community impact anticipated from the SOCTIIP alignments.

See Attachment 10 of the Response to Comments document for more information regarding the consistency of the revised Ranch Plan with the NCCP/HCP Planning Guidelines and SAMP/MSAA Watershed Planning Principles. As described in Attachment 10, the Preferred Alternative, within the context of the approved Ranch Plan as reflected by the Settlement Agreement, is consistent with the SAMP/MSAA Planning Principles.

5.3.9.3 The Effects of Reserve Design on Cumulative Impacts on Biological Resources

As described earlier, the County of Orange is in the process of preparing an NCCP/HCP for the Southern Subregion. These plans are intended to ensure the long-term survival of the coastal California gnatcatcher

and other special status coastal sage scrub-dependent plant and wildlife species in accordance with sanctioned NCCP program guidelines. The reserve design will attempt to preserve the most biologically-rich areas within the subregion, while identifying those areas suitable for development.

Reserve Alternative B-4

This Alternative would result in approximately 3,642 ha (9,000 ac) of new development on the RMV and would impact the largest land area of any of the Reserve Alternatives under consideration. It would leave 5,666 ha (14,000 ac) of RMV land in open space, resulting in a total of 16,984 ha (41,967 ac) of total open space in the Southern Subregion NCCP/HCP. Figure 5.3-1 shows the tentative RMV planning areas for this alternative. Table 5.3-6 presents the conservation of biological resources in the Southern Subregion NCCP/HCP for the various RMV Reserve Alternatives, including B-4 and B-8. Table 5.3-7 presents the impacts that the SOCTIIP build Alternatives would have on the resources in the RMV area. These numbers were calculated by dividing the impacts associated with the ultimate alternatives by the total estimated acreages in the RMV study area. This calculation provides a comparison of the impacts of the SOCTIIP Alternatives compared to the amount of those resources in the vicinity. It is important to recognize that the ultimate build out time frame is after 2025 and is used to show potential total cumulative impacts. These impacts would, in some cases, be additive with those of the RMV development which is presented in Table 5.3-6.

Of the SOCTIIP Alternatives, the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives would result in the greatest habitat fragmentation of this reserve. These alignments would further constrain Canada Gobernadora and Cristianitos Canyon, which would both be closely flanked by proposed RMV development. The South Subregion NCCP/HCP has not been released for public review; therefore, the Habitat Reserve design and the Adaptive Management Program are not available to assess habitat connectivity in the context of that information. Therefore, while it is assumed that connectivity will be addressed and to some degree accommodated to meet NCCP/HCP goals, as discussed further below, the exact manner in which this impact on habitat connectivity would be mitigated cannot be determined at this time. See Attachment 10 of the Responses to Comments for further discussion of this issue. It seems reasonable to expect, however, that this level of build out would increase the dependence of larger and more mobile wildlife on undercrossings and bridges in the area, and more dramatically impact local habitat continuity for a range of both common and sensitive smaller vertebrates. It is also likely that indirect impacts (e.g., human disturbance, increased predation and disturbance from pets, lighting and noise) to these remaining wildlife corridors would be chronic and would likely seriously degrade the habitat value along the periphery of the development areas. These impacts are expected to be reduced by the South Subregion NCCP/HCP. The following text is excerpted from the Draft NCCP/HCP Planning Guidelines to summarize the goals and planning elements that will offset habitat connectivity and indirect impacts.

The goal of the NCCP/HCP is to fashion a habitat conservation planning and implementation program that addresses coastal sage scrub and other natural habitats on an ecosystems basis at a subregional level, pursuant to the State of California NCCP coastal sage scrub program and within the framework of the 1993 NCCP Conservation Guidelines. According to the NCCP Conservation Guidelines:

> . . . subregional NCCPs will designate a system of interconnected reserves designed to: 1) promote biodiversity, 2) provide for high likelihoods for persistence of target species in the subregion, and 3) provide for no net loss of habitat value from the present, taking into account management and enhancement. No net loss of habitat value means no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term.

In other NCCPs, four planning elements comprise the "Conservation Strategy" and have been formulated as programmatic vehicles for carrying out the NCCP Tenets of reserve design:

- *Creation of a Reserve*: the assemblage of large scale Habitat Reserves capable of protecting and maintaining populations of "target species" over the long-term.
- *Assurance of Connectivity*: the provision of land areas necessary for the dispersal of target species and the ability to maintain genetic flow within and between areas.
- *Adaptive Management*: the creation of an institutional basis and program for undertaking management actions necessary to sustain populations over the long-tern, and in doing so, to adapt management actions to new information and changing habitat needs.
- *Implementation Agreement and Funding*: the formulation of a binding Implementation Agreement that identifies the rights and obligations of all signatory parties to the approved NCCP/HCP and provides for funding mechanisms adequate to assure the implementation of the NCCP/HCP consistent with FESA, CESA and the NCCP Act.

The combination of a properly formulated Habitat Reserve and a comprehensive Adaptive Management Program will allow the NCCP/HCP program to maintain *net habitat value* on a *long-term basis* for species ultimately receiving regulatory coverage under the program. As broadly defined in the 1993 NCCP Conservation Guidelines, "no net loss of habitat value means no net reduction in the ability of the subregion to maintain viable populations of target species over the long-term." (Conservation Guidelines, page 9.) Specifically defined, *net habitat value* takes into account habitat gains and losses due to a particular activity, such as reductions in habitat area (impact) and increases in habitat quality (mitigation through restoration and management). The Habitat Reserve and Adaptive Management Program will allow for the mitigation of impacts of proposed incidental take such that the *net habitat value* of the subregion for Identified Species will be maintained on a long-term basis. (Draft NCCP/HCP Planning Guidelines, Southern Subregion, Orange County, California, April 2003, page 3-1, 3-2).)

Ultimately, it is anticipated that the biodiversity in the remaining open space habitat fragments on and adjacent to RMV would be addressed based on the NCCP/HCP. However, in the absence of an NCCP/HCP or similar regional planning effort that provides the same long-term net habitat value, biodiversity may decline incrementally over time due to a variety of edge effects, such as the introduction/promotion of non-native species and people/pet encroachment.

The combined effects of this RMV proposal with the biological impacts from any of the SOCTIIP corridor alternatives and the AIO Alternative, would likely result in cumulative adverse impacts in the absence of an NCCP/HCP or similar regional planning effort that provides the same long-term net habitat value. While it is anticipated that the NCCP/HCP will be adopted and implemented in the future, it is acknowledged that the South Subregion NCCP/HCP is not in place at this time. The impacts in the absence of the NCCP/HCP would be greater under the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives, as these would traverse the greatest amount of relatively undisturbed open space.

Reserve Alternative B-8

This Alternative would result in approximately 1,489 ha (3,680 ac) of new development on RMV, leaving 7,757 ha (19,168 ac) of undeveloped area. This would result in 19,000 ha (46,938 ac) of open space in the subregion, or 52 percent of the subregion, including regional parks, nonprofit lands and conservation easement open space already set aside. This does not include 16,190 ha (40,000 ac) of open space in Cleveland National Forest. Figure 5.3-2 shows Reserve Alternative B-8.

Potential development includes:

- 218.5 ha (540 ac) on both sides of Ortega Highway adjacent to San Juan Capistrano.
- 482 ha (1,191 ac) on and adjacent to the existing silica mining site (Trampas Canyon subbasin).
- 789 ha (1,949 ac) in and around the existing nursery and ranching facilities immediately inside the Canada Gobernadora subbasin north of San Juan Creek.
- 113 ha (280 ac) of development potential in the subregion outside of the Foothill Trabuco Specific Plan Area and RMV property.

Of the SOCTIIP alternatives, the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives would result in the greatest habitat fragmentation of this reserve. In the absence of the adaptive management of the NCCP/HCP or similar regional planning effort, development according to this Reserve Alternative would contribute to direct habitat loss as well as a variety of indirect impacts (fragmentation, noise, human intrusions, pets, lighting, and non-native plants). This Reserve Alternative, when considered in combination with any of the SOCTIIP Alternatives and with the other cumulative projects, is anticipated to have cumulative and unmitigated impacts on biological resources. These impacts are expected to be reduced by the South County Subregion NCCP/HCP. Therefore, while it is assumed that connectivity will be addressed and to some degree accommodated to meet NCCP/HCP goals, the exact manner in which this impact on habitat connectivity would be mitigated cannot be determined at this time.

5.3.9.4 Cumulative Impacts of Habitat Fragmentation

The SOCTIIP and the cumulative projects identified in Table 5.3-5 will cumulatively affect local habitat for a range of smaller vertebrates. However, the available open space on either side of the SOCTIIP corridor and AIO Alternatives is substantial. The amount available on the east side is dependent on the ultimate RMV development and whether Reserve Alternative B-4, B-5, B-6 or B-8 is selected for implementation. The most profound impact from habitat fragmentation will be that on the larger, free-ranging mammals such as mountain lion, mule deer and bobcat that traverse more expansive natural habitat during foraging and breeding activities. The smaller vertebrate species are generally less affected due to their more limited geographic needs. However, there will be additional cumulative impacts even to the smaller animals as predation becomes more prevalent and medium-sized predators increase accordingly and the habitat fragments reduce genetic exchange between more regional populations. The dependence of larger and more mobile wildlife on undercrossings and bridges will also be increased. Indirect impacts on remaining wildlife corridors would be chronic and would likely seriously degrade habitat values along the periphery of the project areas. These indirect impacts may include human disturbance, increased predation and disturbance from pets, lighting, and invasion by non-native plants. Ultimately, it is anticipated that the biodiversity in the remaining open space habitat fragments would decline incrementally over time due to a variety of edge effects, such as the introduction or promotion of non-native species and encroachment by people and pets.

All the SOCTIIP build Alternatives except the I-5 Alternative would contribute to habitat loss and to the indirect effects discussed above. These Alternatives, when considered in combination with the cumulative projects, will have cumulative and unmitigable impacts on biological resources. It should be noted that although the length of the Preferred Alternative is essentially the same as the length of A7C-FEC-M, the disturbance limits for the Preferred Alternative are reduced by limiting the project to six general purpose lanes and as a result of design modifications. Although cumulative impacts will remain cumulatively adverse, the reduction of the disturbance limits for the Preferred Alternative will result in a commensurate reduction in the magnitude of cumulative biological impacts. The cumulative effects on biological resources of the Preferred Alternative are also reduced by locating the Preferred Alternative

closer to development areas (e.g., the Talega development) and by locating the Alternative substantially within the development "bubbles" approved in the RMV Settlement Agreement.

5.3.9.5 Cumulative Impacts on Vegetation

The conservation of biological resources in the overall Southern Subregion NCCP/HCP, and the RMV is presented for selected species and habitats in Table 5.3-6. Analysis was conducted to identify the proportion of plant community impacts associated with SOCTIIP Alternatives compared to the resources within the RMV. The results of the comparison are shown in Table 5.3-7. As noted in that Table, impacts of the SOCTIIP corridor Alternatives range from 1.5 percent to approximately 4.5 percent of the plant communities located in the RMV study area. These totals are for all plant communities added together, as shown in Table 5.3-7. For each plant community type, the impact percentages of sensitive plant communities are small, in most cases, less than half a percent. Cumulative impacts for sensitive plant communities are adverse due to the extent and quality of the biological resources present and the number and location of the projects under consideration.

Population numbers of sensitive plants, with some exceptions noted on Table 5.3-4, are not available. Comparisons with regional habitat are not appropriate due to very specific requirements related to soil type, topography, exposure and microclimate influences that are difficult to predict within an overall plant community. Table 5.3-8 provides a summary of the data available with respect to populations and individuals of sensitive plant species affected by the ultimate corridor configurations. Regardless, the cumulative impacts to sensitive plants is adverse due to the number of individuals impacted by the SOCTIIP Alternatives and the amount of open space and natural habitat impacted by projects in the area, including the RMV development.

5.3.9.6 Cumulative Impacts on Wetlands and Waters of the United States

Direct impacts on wetlands could occur from the development of the projects included in the cumulative impact assessment, including the potential development scenarios outlined for the RMV. Existing regulatory requirements, however, ensure that implementation of these projects will not result in cumulative effects on wetlands. These regulatory requirements include avoidance and minimization of impacts and "...no net loss..." policies imposed by the ACOE and CDFG, as well as the stringent regulations affecting issuance of permits that would adversely affect wetlands under the California Coastal Act.

Indirect impacts of the cumulative projects, including increases in velocity of runoff, wetland inundation, and water quality degradation, can also affect wetlands. Discharges from projects are regulated, and the velocity of discharge is regulated to below erosive levels through conditions placed on individual projects. Inundation levels are also regulated and conditioned on an individual basis. The Regional Water Quality Control Board (RWQCB) regulates water quality. For all of these reasons, and in accordance with the findings presented in the water quality analysis of this EIS/SEIR, there will be no adverse direct or indirect cumulative impacts.

5.3.9.7 Cumulative Impacts on Threatened and Endangered Species

Direct and indirect impacts on threatened and endangered species are discussed in Section 4.12. This Section evaluates cumulative impacts on threatened and endangered species observed in the study area within the context of past, present and reasonably foreseeable future actions.

For some of these species, critical habitat has been designated in the study area. Critical habitat designations provide one measure of the most important remaining habitat for the affected species. Effects on critical habitat are discussed as an indication of potential cumulative impacts.

Fairy Shrimp Species

The vernal pools that constitute the habitat of the San Diego and Riverside fairy shrimp species have been nearly eliminated from coastal Orange County. In 1998, USFWS issued a recovery plan for vernal pool species that includes the San Diego fairy shrimp and the Riverside fairy shrimp (USFWS 1998). The goal of the recovery plan is to conserve and enhance southern California vernal pool ecosystems with particular emphasis on stabilizing and protecting existing vernal pool species, the San Diego fairy shrimp and the Riverside fairy shrimp, among others, so that these species may be reclassified from endangered to threatened status under the Federal Endangered Species Act (FESA). To accomplish this goal, the recovery plan recommends that existing vernal pools and their associated watersheds be secured from further loss and degradation in a configuration that maintains habitat function and species viability. In addition, the plan provides that population trends must show stability or an increase in numbers for a minimum of ten consecutive years, and monitored over the ten-year period, prior to consideration for reclassification from endangered to threatened.

It is estimated that 75 percent of the San Diego fairy shrimp's and 22 percent of the Riverside fairy shrimp's remaining habitat will be conserved in the Southern Subregion as shown in Table 5.3-6.

San Diego Fairy Shrimp. The San Diego fairy shrimp is restricted to vernal pools in Orange and western San Diego Counties. Critical habitat was designated for the San Diego fairy shrimp in 2000, including 1,629 ha (4,025 ac) of critical habitat in Orange and San Diego Counties. Although this designation was remanded to USFWS by court order, these critical habitat boundaries remain in effect until the new proposed critical habitat designation is made final in May 2004. On April 23, 2003, USFWS reproposed critical habitat, including a total of 2,468 ha (6,098 ac) in Orange and San Diego Counties.

None of the SOCTIIP Alternatives would have a direct impact on vernal pools. The FEC-M, FEC-W, A7C-FEC-M/Preferred and I-5 Alternatives would affect a small amount (approximately 2.03 ha (5 ac)) of the currently designated critical habitat. Although there would be no impact associated with any of the SOCTIIP build Alternatives, impacts associated with past actions and potential impacts identified for the RMV project would result in adverse cumulative effects.

This impact will be reduced and mitigated for the RMV project, in conjunction with the NCCP/HCP by the following: protection of *key locations* in accordance with the recommendations of the fairy shrimp Species Accounts and management of vernal pools, primarily through exotic species control. The proposed NCCP/HCP Conservation Strategy would substantially contribute to the region-wide recovery of the San Diego fairy shrimp.

Riverside Fairy Shrimp. The Riverside fairy shrimp was formerly widespread in vernal pools pool-like ephemeral ponds and human-modified depressions from coastal southern California south to northwestern Baja California, Mexico. It has been estimated that in Orange County habitat for this species has declined by 90 to 98 percent.

Although critical habitat is not currently designated for the Riverside fairy shrimp, it is in the process of being reproposed after formerly designated critical habitat was vacated and remanded to USFWS by court order in 2002. The previous designation included areas in Los Angeles, Orange, Riverside, San Diego and Ventura Counties.

None of the SOCTIIP build Alternatives would have direct impact on vernal pools. However, the CC Alternative would impact 83.63 ha (206.64 ac) of the previously proposed Riverside fairy shrimp critical habitat. Of the cumulative projects, the Saddleback Meadows project will have impacts on a 0.152 ha (0.4 acre) ephemeral pond. Although there would be no impact associated with any of the SOCTIIP build Alternatives, impacts associated with past actions and potential impacts identified for the RMV project would result in adverse cumulative effects.

This impact will be reduced and mitigated for the RMV project, in conjunction with the NCCP/HCP by the following: protection of *key locations* in accordance with the recommendations of the fairy shrimp Species Accounts and management of vernal pools, primarily through exotic species control. The proposed NCCP/HCP Conservation Strategy would substantially contribute to the region-wide recovery of the Riverside fairy shrimp.

Tidewater Goby

It has been estimated that, since 1900, the tidewater goby has disappeared from approximately 50 percent of formerly occupied lagoons. Its historic range included at least 87 of California's coastal lagoons, from near the Oregon border to Agua Hedionda Lagoon in northern San Diego County. Currently, tidewater gobies occupy eight locations in Camp Pendleton. Two of these populations range from several thousand to 70,000 gobies.

Critical habitat has been designated for this species. Criteria used by USFWS when considering areas to designate as critical habitat for the tidewater goby are lagoons and estuaries with a naturally supporting hydrological regime and relatively low populations of exotic species. The critical habitat for this species in San Mateo Creek includes a 50-year floodplain where wetlands have been delineated as shown in Table 4.12-5. Conservation of critical habitat is vital to tidewater goby survival, because a random event or a combination of unfavorable conditions could extirpate existing populations.

The FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives would potentially have direct, but mitigable, impacts on the tidewater goby. Any indirect impacts would occur during construction at San Mateo Creek where some temporary turbidity could occur. The FEC-M, FEC-W and I-5 Alternatives would have impacts on 0.04 mi (0.06 km) of critical habitat. The cumulative projects in Table 5.3-6 would not have any direct effects on the tidewater goby. Because direct impacts of the SOCTIIP build Alternatives can be mitigated, impacts on critical habitat are minor, and there are no direct effects from cumulative projects, the proposed action and future actions will not have adverse cumulative effects.

Southern Steelhead Trout

Southern steelhead (those occurring south of San Francisco Bay) were formerly found in coastal drainages as far south as the Santo Domingo River in northern Baja California. There has been a drastic decline in numbers in nearly all southern streams, and it was believed that the populations south of Malibu Creek had been extirpated. Recent field surveys conducted by CDFG have confirmed the existence of a southern steelhead population in San Mateo Creek, in the southern portion of the SOCTIIP study area. The San Mateo Creek population is genetically distinct from hatchery steelhead.

The majority of the San Mateo watershed is on federal land. Camp Pendleton and Cleveland National Forest maintain the watershed. Spawning and rearing of juveniles are observed upstream from Camp Pendleton, and migration of adults and juveniles begins near San Onofre State Beach and Camp Pendleton. Conservation activities completed on these federal lands include control of exotic species that are detrimental to steelhead populations, protection of riparian habitat and riparian dependent species, and restoration of the San Mateo watershed for native species.

The National Marine Fisheries Service (NMFS) designated nineteen Evolutionarily Significant Units (ESU) of critical habitat for the southern steelhead trout, but did not include the San Mateo Creek within the critical habitat designation. However, this critical habitat designation was vacated and remanded to NMFS by court order as of April 2002.

The FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives would potentially have direct, but mitigable, impacts on the southern steelhead. Any indirect impacts would occur during construction at San Mateo Creek where some temporary turbidity could occur. The cumulative projects in Table 5.3-6 would not have any direct effects on the southern steelhead. Because direct impacts of the SOCTIIP build Alternatives can be mitigated and there are no direct effects from cumulative projects, the proposed action and future actions will not have adverse cumulative effects.

Arroyo Toad

The arroyo toad was historically found along the length of drainages in southern California from San Luis Obispo to San Diego County. It has been extirpated from 76 percent of its historically documented habitat in California, however; in Orange County, it is now found only in scattered populations along San Juan and San Mateo Creek watersheds. The conservation of all of its remaining habitat is proposed for the Southern Subregion as shown in Table 5.3-6.

A recovery plan for the arroyo toad was issued in 1999. Under the recovery plan, where management plans have been approved and implemented on federally managed lands, the arroyo toad can be considered threatened rather than endangered. Such plans exist for San Mateo and San Onofre Creeks. These are considered wildlife corridors connecting areas of Camp Pendleton to the southern part of the SOCTIIP study area. These recovery areas provide conservation, maintenance and restoration of the riparian and uplands habitat used for breeding populations of arroyo toads.

Critical habitat was designated for the arroyo toad, including areas in the San Juan Creek and San Mateo Creek watersheds. Critical habitat was vacated in 2002 by court order, however. Table 4.12-5 describes critical habitat impacts based on the prior designation.

The FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives could have direct and indirect impacts on the arroyo toad (up to two individuals), although some of these effects can be mitigated. Because these alternatives would be aligned along creeks providing arroyo toad habitat, their long-term effects would still be adverse. These Alternatives, as well as the CC Alternative, would also affect formerly-designated critical habitat. The FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives would affect 0.46 km (0.28 mi), while the CC Alternative would affect 0.40 km (0.25 mi). There are no direct effects from the cumulative projects listed on Table 5.3-5. The County of Orange determined that impacts to the arroyo toad due to the Ranch Plan project would be reduced to less than significant through avoidance, minimization and mitigation measures. Now that RMV impacts are known, ~~I~~in conjunction with past and present projects, the proposed SOCTIIP would not contribute to adverse cumulative effects.

The NCCP/HCP is expected to provide for the recovery of the arroyo toad through the Habitat Reserve design and Adaptive Management Program, which will include the following: protection of *key locations* of the arroyo toad, enhancement and restoration in creeks and watersheds through specific actions such as control of non-natives (plants, such as giant reed, and bullfrogs), grazing management and sediment management.

Southwestern Willow Flycatcher

*The southwestern willow flycatcher's historic range included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado and extreme northwestern Mexico. In California, it included all lowland riparian areas in the southern third of the state. Overall, the current range is similar to the historical range, but the quantity of suitable habitat within that range is much reduced from historical levels.

Approximately 121 breeding territories of southwestern willow flycatchers were known to exist in California in 2000, with two territories recently documented in south Orange County. Surveys conducted between 1993 and 1996 throughout the known range of this flycatcher produced a total of 549 territories. Population trend information since the mid-1980s shows decline in most areas. Depending on the ultimate reserve configuration, from 71 to 100 percent of remaining habitat in the study area is proposed for conservation as shown on Table 5.3-6.

A recovery plan for the southwestern willow flycatcher was adopted on March 5, 2003. Critical habitat had been designated, but this designation was vacated and remanded to USFWS by court order. USFWS expects to repropose critical habitat in 2004. The San Diego Multiple Species Conservation Plan has protected 3,600 ha (9,000 ac), which includes 75 percent of the remaining riparian nesting habitat in San Diego County. Protected areas are linked to previously-designated critical habitat in Orange and Riverside Counties. The NCCP Program in Orange County includes 14,920 ha (37,300 ac) of formerly designated critical habitat and requires that surveys be conducted to ensure the safety of occupied nesting habitat.

None of the SOCTIIP build Alternatives would have direct or indirect impacts on the southwestern willow flycatcher or would affect critical habitat. There are no direct or indirect effects from cumulative projects as shown in Table 5.3-5. The SOCTIIP and other future actions would not have adverse cumulative impacts.

California Gnatcatcher

The California gnatcatcher's habitat has been significantly diminished and fragmented. It is estimated that, between 1945 and 1990, 50 percent of coastal sage scrub (CSS) in Orange County and 60 to 65 percent of CSS in San Diego County was lost. NCCP field surveys indicate that about 1,000 pairs of gnatcatchers may currently occur in Orange County.

In 2000, critical habitat was designated for the California gnatcatcher. Although this designation was remanded to USFWS, it remains in effect until USFWS redesignates critical habitat in 2004. The current designation includes all lands within the species' geographical home range and lands that are likely to be used for reproduction, territory claims or migration. Both current and proposed critical habitat in the project area contains substantial core populations of California gnatcatcher and sage scrub communities. Depending on the ultimate reserve configuration, from 73 to 85 percent of remaining habitat in the study area is proposed for conservation a shown in Table 5.3-6.

There will be direct impacts on the California gnatcatcher from all the SOCTIIP build Alternatives, as shown earlier in Table 4.12-3. There will be impacts on critical habitat from all Alternatives except the I-5 Alternative. The greatest impacts are caused by the FEC-M, FEC-W, and A7C-FEC-M/Preferred Alternatives. A number of the cumulative projects will also have impacts on the California gnatcatcher, including Whispering Hills, Coastal Ranch, Pacific Point/San Juan Meadows and Marblehead Coastal as shown in Table 5.3-5. Between 7 and 16 use areas of the California gnatcatcher are directly impacted by the SOCTIIP build Alternatives. Projects listed in Table 5.3-5 have reported that cumulatively an

additional 56 pairs and 19 individuals would be impacted. There will be a cumulative adverse impact to the California gnatcatcher as contributed by the SOCTIIP build Alternatives (7 to 16 use areas) and planned or future projects in south Orange County (56 pairs and 19 individuals). In conjunction with past, present and reasonably foreseeable future projects, the SOCTIIP build Alternatives would have adverse cumulative effects. The Preferred Alternative would have fewer cumulative impacts on the gnatcatcher than the FEC-W and FEC-M Alternatives because the Preferred Alternative is limited to six lanes and is located within areas shown for development in the RMV Settlement Agreement whenever feasible.

Least Bell's Vireo

The least Bell's vireo's historical breeding range extended from Baja California to interior northern California. It has been estimated that the species has been extirpated from over 95 percent of its former range. Until very recently, the least Bell's vireo had been observed in very low numbers in Orange County (e.g., no observations in 1988 and 1989). However, during the last decade, the vireo population in Southern California has been on the increase, and during 2002, at least 111 territories were known to be present in Orange County. Territorial least Bell's vireos were observed at 16 locations in the SOCTIIP study area during 1995 surveys.

Critical habitat has been designated in Santa Barbara, Ventura, Los Angeles, Riverside, San Bernardino and San Diego Counties. Critical habitat has not been designated in Orange County; although least Bell's vireos have been identified in the San Juan Creek and San Mateo Creek watersheds, no critical habitat has been designated in the project area. Depending on the ultimate reserve configuration, from 83 to 87 percent of remaining habitat in the study area is proposed for conservation as shown in Table 5.3-6.

There is the potential for direct impacts on two use areas from the AIO Alternative and for direct impacts on one use area from the CC, CC-ALPV and A7C-ALPV Alternatives. Mitigation measures would be applied to these impacts. There will also be impacts from the cumulative projects, including Prima Deshecha Sanitary Landfill, Whispering Hills and Arroyo Trabuco Golf Course as shown in Table 5.3-5. A total of nine pairs were reported as impacted by these projects. In conjunction with past, present and reasonably foreseeable future projects, the SOCTIIP build Alternatives would have adverse cumulative effects.

Pacific Pocket Mouse

The Pacific pocket mouse suffered a rapid depletion of population starting in the 1940s, as a result of coastal development and resultant habitat destruction and fragmentation. The species was found in the San Joaquin Hills in Orange County from 1968 through 1971. It was believed extinct for 20 years, until a population was found in 1993 in the Dana Point headlands. The species is currently known to occur only on privately-owned land near Dana Point and at two locations on Camp Pendleton. Trapping efforts in 1995 and 1996 caught 33 and 22 individuals, respectively, in the study area. A focused survey in 2002 caught four individuals. At Dana Point Headlands, 25 to 36 mice were detected in 1993.

The USFWS adopted a recovery plan for the Pacific pocket mouse in 1998, and the population is located in a recovery area. No critical habitat has been designated because USFWS concluded that the species would not benefit from critical habitat; the designation would increase threats to the population because of collection activity.

All the SOCTIIP build Alternatives have been designed to avoid Pacific pocket mouse habitat, and there are no direct or indirect effects from the cumulative projects as shown in Table 5.3-5. There is the

potential for indirect impacts from the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives but it is mitigated through project design.

Peregrine Falcon

Peregrine falcons once ranged over most of California and across North America. A serious decline in numbers began in the 1940s, due to pesticide poisoning. In the mid 1970s, only 10 breeding pairs were known in California. The population has since increased in response to legal protection, restrictions on organochlorine pesticides (e.g., DDT) in the United States and Canada, and captive-breeding and release It is estimated that there are more than 250 breeding pairs of peregrine falcons in California today.

Impacts to the peregrine falcon would result from increased human proximity and habitat loss, from the SOCTIIP and from the cumulative projects. Indirect construction impacts from the SOCTIIP would include noise, lighting and other edge effects, including disruption of the prey base. Because this species is not known to nest in the study area and is highly mobile, impacts from the SOCTIIP and from the cumulative projects are unlikely to result in mortality or in the displacement of a substantial number of individuals. Therefore, there are no adverse cumulative impacts.

Swainson's Hawk

During the early 1900s, the Swainson's Hawk nested in lowlands throughout most of California, maintaining populations as large as 17,000 pairs. Ten years ago, only 550 nesting pairs were found in California and numbers have been slowly declining. One pair has been known to nest in Los Angeles County during recent years. There is no evidence of breeding in the study area, but they occasionally forage there during annual migrations to and from wintering grounds in South America. No direct impacts are expected as a result of the SOCTIIP build Alternatives, although minimal indirect effects occur from human proximity and loss of foraging habitat. The SOCTIIP build Alternatives in combination with future projects would not be expected to have adverse cumulative impacts.

Thread-Leaved Brodiaea

The thread-leaved brodiaea's historical range extends from Los Angeles and San Bernardino Counties through eastern Orange and western Riverside Counties to Carlsbad in northwestern San Diego County. Its range has been diminished and fragmented and at least nine populations have been extirpated, primarily in San Diego County. In 2002, it was estimated that there were between 11,650 and 14,650 individual plants throughout Orange County. Thirty-four populations, with over 4,400 individuals, were identified in the SOCTIIP study area in 2001.

The USFWS is in the process of preparing a recovery plan for this species, along with eight other species in southern California, and the SOCTIIP study area could potentially be located in a recovery area. Critical habitat has not been designated for the species because there was no imminent benefit that would result from critical habitat designation.

The FEC-M, FEC-W, A7C-ALPV and A7C-FEC-M/Preferred Alternatives will result in direct and indirect impacts on individuals and populations from (see Table 4.12-3). Direct and indirect impacts will also result from the cumulative projects as shown in Table 5.3-5. Although mitigation measures will reduce these effects, including seed collection and the translocation of plants, little is currently known about the ability to successfully translocate these plants. Because the species is not widespread in California, the plants in the project area represent a substantial portion of the regional population, and the success of mitigation measures for direct impacts is not assured, there would be adverse cumulative impacts on the thread-leaved brodiaea.

The NCCP/HCP is expected to provide for the conservation of this species through the Habitat Reserve design and Adaptive Management Program. Actions are expected to include the protection of *key locations* of the brodiaea, control of non-native invasive species, fire management and translocation of smaller populations to areas with clay topsoils and without competing plants. The Ranch Plan protects the key locations of the thread-leaved brodiaea.

5.3.10 CUMULATIVE IMPACTS RELATED TO WILD AND SCENIC RIVERS

The study area for wild and scenic rivers is the area covered by the watersheds in south Orange County as shown earlier in Figure 4.8-1. As discussed in Section 4.13 (Affected Environment, Impacts and Mitigation Measure Related to Wild and Scenic Rivers), there are no rivers as designated as "Wild and Scenic" pursuant to the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) in the SOCTIIP study area. Therefore, no cumulative impacts to wild and scenic rivers would occur under the SOCTIIP build or No Action Alternatives.

5.3.11 CUMULATIVE IMPACTS RELATED TO COASTAL BARRIERS

The study area for coastal barriers is the off shore area from approximately Dana Point south to Camp Pendleton. As discussed in Section 4.14 (Affected Environment, Impacts and Mitigation Measure Related to Coastal Barriers), there are no coastal barriers subject to the Coastal Barrier Resource Act (CBRA) or the Coastal Barrier Improvement Act of 1990 (CBIA, P.L. 101-591; 104 Stat. 2931) in the SOCTIIP study area. Therefore, no cumulative impacts to coastal barriers would occur under the SOCTIIP build or No Action Alternatives.

5.3.12 CUMULATIVE IMPACTS RELATED TO THE COASTAL ZONE

An area in the southern part of the SOCTIIP study area is in the Coastal Zone. Development in the Coastal Zone would require an application for a Coastal Development Permit (CDP). The A7C-FEC-M-Initial Alternative, with design modifications, was selected as the Preferred Alternative.

The California Coastal Act (CCA) of 1976 (Public Resources Code Section 3000 et seq.) was enacted in 1976 to provide for the long-term protection of California's coastline for the benefit of current and future generations. The Coastal Zone, as defined and depicted, is a 1,769 km (1,100 mi) long stretch from Oregon to the border of Mexico reaching 4.8 km (three mi) out to sea to a varying boundary of a few blocks to eight km (five mi) inland. The Coastal Zone establishes a jurisdictional boundary for the CCC. The Coastal Zone boundary in south Orange County is shown on Figure 5.3-31. The defined Coastal Zone as shown in Figure 5.3-3 is the study area for the SOCTIIP.

The CCC's concerns involve environmentally sensitive habitat areas, alterations of rivers or streams, fish and wildlife resources, wetland areas, archaeological or paleontological resources, and visual qualities. These concerns and potential cumulative impacts of SOCTIIP and other developmentally related environmental parameters are discussed elsewhere in this Section, under biological, cultural, paleontological and visual resources.

5.3.13 CUMULATIVE IMPACTS RELATED TO HISTORIC AND ARCHEOLOGICAL RESOURCES

The method of analyzing cumulative impacts for historic and archaeological preservation takes into consideration development trends in a given area and evaluates cumulative impacts by environmental parameter, e.g., historic and archaeological resources, in the relative context of what impacts the

development trend has had and will potentially have on cultural resources in the study area shown on Figure 5.1-1. The study area for cumulative cultural resources impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east to into Camp Pendleton, as shown on Figure 5.1-1.

Table 5.3-8 lists the ongoing and predicted projects in the SOCTIIP study area, the potential impacts of those projects on known historic and archaeological resources, and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. The Ranch Plan EIR found that grading and construction activities would have a potentially significant impact on National Register of Historic Places (NRHP) and California Register of Historic Places (CRHR) eligible/potentially eligible archaeological sites. The Ranch Plan EIR also found that implementation of the project would have a potentially significant impact on historic sites that have been determined to be eligible or potentially eligible for the NRHP or CRHR. The Ranch Plan EIR found that all the impacts to cultural resources would be reduced to a level of less than significant with mitigation.

Cumulative impacts on historic and archaeological resources result when archaeological sites and historical structures and buildings are destroyed or become unavailable for use by Native Americans (archeological sites) or for study and observation by scientists as a result of development projects in an area. As described earlier in Section 4.16 (Affected Environment, Impacts and Mitigation Measures Related to Historic and Archaeological Resources), the SOCTIIP build Alternatives would potentially result in adverse impacts during construction resulting in the destruction of archaeological resources and/or the built environment, the degradation of visual setting for the built environment, and in areas that are currently subsurface, the loss of artifacts, stratigraphic information, paleobotanical information, and other avenues of study associated with archaeological resources. Indirect impacts are primarily the result of increased human presence, and the increased opportunity for additional impact. This increased human presence is the result of the development trends discussed in Section 5.1.3 and also the recent past, present and future projects shown in Table 5.1-1. The majority of projects requiring construction in the SOCTIIP area have the potential to create the same types of adverse and indirect impacts on archaeological resources as the SOCTIIP build Alternatives.

The destruction of archaeological sites and the built environment produces a substantial cumulative impact because these non-renewable records of past cultures become permanently unavailable. In assessing cumulative impacts, it is the number and type of archaeological resources and historic structures already lost to study in Orange County and throughout southern California due to existing development that must be considered in addition to the additional projects planned for the future.

There is a cumulative adverse impact on historic and archaeological resources as a result of the SOCTIIP build Alternatives and other projects. With the implementation of mitigation measures, these impacts would be substantially mitigated although the impact is cumulatively adverse. Therefore, SOCTIIP build Alternatives contribute to a cumulative adverse impact related to historic and archaeological resources.

Build out of the MPAH and the land uses assumed under the No Action Alternatives would be expected to result in adverse impacts related to archaeological and historic resources which may not be fully mitigated. As a result, the No Action Alternatives would also contribute to a cumulative adverse impact on cultural resources. However, because the No Action Alternatives do not propose any SOCTIIP improvements, these Alternatives ~~would~~ do not contribute to cumulative impacts related to SOCTIIP improvements on historic and archaeological resources.

5.3.14 CUMULATIVE IMPACTS RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTE SITES

Table 5.3-9 lists the cumulative projects in the SOCTIIP study area, the potential impacts of those projects related to hazards and hazardous materials and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. The study area for cumulative hazardous materials and hazardous wastes sites impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east to into Camp Pendleton, as shown on Figure 5.1-1.

Aerial photographs were reviewed for the entire SOCTIIP study area, as discussed earlier in Section 4.17 (Affected Environment, Impacts and Mitigation Measures Related to Hazard Materials and Hazard Waste Sites) under Methodology. Because of the large size of the area of interest and the overlap of photographs, photographs were examined by compiling mosaics and examining overall patterns of growth and development along the alignments of the SOCTIIP build Alternatives. Because the scale of the photographs did not in all cases allow the identification of individual sites, the emphasis in this discussion is on historic and current patterns of regional and local development, and land use, rather than the history of individual sites or buildings in the SOCTIIP study area. Photograph sets dated 1959, 1967, 1975, 1982 and 1999 were examined. Because several parts of the study area are currently undergoing rapid development, the 1999 photographs may not fully represent current conditions. This research confirmed the development trends discussed in Section 5.1.3 and the recent past, present and future projects listed in Table 5.1-1.

As described earlier in Section 4.17, the SOCTIIP build Alternatives could result in short-term adverse impacts during construction related to military sites, past pesticide and herbicide use on agricultural land, USTs, LUST sites, auto services, dry cleaners, existing utilities, wastewater treatment plants, electrical substations, petroleum pipelines, asbestos in existing structures, aerially deposited lead, undocumented abandon oil wells or test borings, release of hazardous materials due to construction activities and Prima Deshecha Landfill. As shown in Table 5.3-9, the majority of hazardous materials impacts associated with other projects in the SOCTIIP area will be short-term construction impacts. The use, handling, storage, transport and remediation of hazardous materials and wastes during construction for the SOCTIIP build Alternatives and the other projects in Table 5.3-9 are regulated by federal, state and local regulations, and by mitigation measures included in those projects. Because the SOCTIIP build Alternatives and these other projects will likely not all be under construction simultaneously and because of existing regulations, the SOCTIIP build Alternatives, when considered with these other projects, will not result in a cumulative short-term adverse impact related to hazardous materials.

As described earlier in Section 4.17.3.2, the SOCTIIP build Alternatives will introduce a potential new hazard associated with highway transport of hazardous materials to areas not presently subject to this risk. This potential long-term impact of the build Alternatives will be mitigated substantially based on compliance with existing federal, state and local regulations related to the transport of hazardous materials and wastes. The SOCTIIP build Alternatives will not contribute to cumulative adverse impacts related to hazardous materials. Similarly, the Ranch Plan EIR found that all potentially significant impacts related to hazards could be reduced to below a level of significance with mitigation.

The No Action Alternatives would not result in a SOCTIIP contribution to cumulative impacts related to hazardous materials and hazardous waste sites because no SOCTIIP construction would occur under these Alternatives. However, build out of the MPAH and the land uses assumed under the No Action Alternatives could result in short- and/or long-term adverse impacts related to hazardous materials and wastes. Therefore, build out under the No Action Alternative could contribute cumulatively to impacts

related to hazard materials and hazard waste sites although there would be no SOCTIIP related contribution.

5.3.15 CUMULATIVE IMPACTS RELATED TO AESTHETICS AND VISUAL RESOURCES

Table 5.3-10 lists the cumulative projects in the SOCTIIP study area, which are shown in Figure 5.1-1, and also lists the potential impacts of those projects related to visual resources and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. As described in Section 5.1.3, development trends in the study area have incrementally changed the appearance of parts of the study area from agricultural and open space to urbanized viewscape. This trend is expected to continue with the development of projects listed in Table 5.1-1. The study area for cumulative visual resources impacts is generally the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east to into Camp Pendleton, as shown on Figure 5.1-1. However, as discussed in detail in Section 4.18 (Affected Environment, Impacts and Mitigation Related to Visual Resources), in some cases the study area extends beyond the physical limits of the land use study area, because views are available over longer distances, to more distant hills or from higher topography across broader areas. Section 4.18 describes the study area for visual resources in detail.

The Ranch Plan EIR found that grading activities associated with that project would significantly alter the existing visual characteristics and topography of the site and that this impact could not be reduced to below a level of significance. The Ranch Plan EIR also found significant, unavoidable impacts to aesthetics regarding the changes in the visual character of the project site, impacts to ridgelines, change in views from some recreational area vantage points, and the introduction of new sources of nighttime lighting and the potential for glare. In addition, the Ranch Plan EIR found that there would be significant unavoidable cumulative impacts to aesthetics as a result of changes to the visual character of the area, landform alterations, and the creation of light or glare.

As described earlier in Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources), the SOCTIIP build Alternatives would result in short-term adverse impacts related to visual resources during construction. These impacts would be considered adverse but less than substantial because they will last during the period of construction only. All of the corridor Alternatives and the AIO Alternative will introduce the urban elements of the toll road into areas that currently have a rural visual character. The urbanizing elements of these alternatives in rural areas include the toll or arterial road surfaces, connector ramps and toll plazas. The corridor and AIO Alternatives would, together with other projects in the area, contribute to changing the existing visual character of the rural areas crossed by the alternatives to a more urban visual character. Therefore, the SOCTIIP build Alternatives, with the exception of the I-5 Alternative, when considered with other projects in the area, are anticipated to contribute to a cumulative long-term adverse impact related to visual resources in the study area.

The A7C-FEC-M/Preferred and A7C-ALPV Alternatives would have the greatest impacts on visual resources because they would result in unavoidable adverse visual impacts at five and six locations respectively, and would result in unavoidable adverse impacts to a regionally outstanding view. The other build Alternatives would result in reduction of visual quality at fewer locations and would not impact regionally outstanding views.

Build out of the MPAH and the land uses assumed under the No Project Alternatives would result in adverse visual impacts and could contribute to cumulative adverse visual impacts in the SOCTIIP study area. However, the No Action Alternatives would not contribute to a cumulative change in visual character in the study area because no SOCTIIP related improvements would be constructed under these Alternatives.

5.3.16 CUMULATIVE IMPACTS RELATED TO ENERGY

The study area for cumulative energy impacts is ~~the~~ generally the same as the traffic study area as defined in Section 5.3.1 (Cumulative Impacts Related to Traffic and Circulation). The cumulative projects listed in Tables 5.1-1 to 5.1-5 are assumed as the cumulative development in this area for the energy analysis.

As described earlier in 4.19 (Affected Environment, Impacts and Mitigation Measures Related to Energy), the SOCTIIP build Alternatives would require energy resources, related to energy used during construction. In the long-term, during operations of the SOCTIIP build Alternatives, energy will be used for vehicles operating on the road facilities. The long-term energy use with the SOCTIIP build Alternatives would either not vary substantially from energy use under the No Action Alternatives or would be reduced compared to energy use under the No Action Alternatives.

Although available documentation for the other cumulative projects in the study area, shown in Tables 5.1-1 to 5.1-5, did not provide information on energy use of those projects, it is assumed that each of those projects will require energy sources during construction and operations. As discussed in Section 5.1.3, development trends in the study area have been and continue to be converting from rural to urban uses and would require provision of utilities such as natural gas and electricity to support those uses. It is further assumed that the cumulative effect of the combined long-term energy use for the operations of these projects will be adverse on regional energy supplies.

However, because the SOCTIIP build Alternatives will not result in an increase in energy use in the long-term in the study area, they will not contribute to a cumulative adverse effect on energy. The SOCTIIP build Alternatives, when considered with other projects, would not result in a cumulative short-term adverse impact related to energy.

Build out of the MPAH and the land uses assumed under the No Action Alternatives would result in increased energy use compared to existing conditions. Because there are no SOCTIIP improvements under the No Action Alternatives, these Alternatives would not result in incremental energy impacts when considered with the other projects in the study area.

5.3.17 CUMULATIVE IMPACTS RELATED TO EARTH RESOURCES

Table 5.3-11 lists the cumulative projects in the SOCTIIP study area, the potential impacts of those projects related to geotechnical, geology and soils issues, and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. The study area for cumulative earth resources impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east into Camp Pendleton, as shown on Figure 5.1-1. The development trend is South Orange County as described in Section 5.1.3 would not have had a cumulative impact on earth resources because as each development is implemented it is mitigated through its design. For example, the Ranch Plan EIR found that all project impacts related to geology and soils were reduced to below a level of significance with mitigation.

As described earlier in Section 4.20 (Affected Environment, Impacts and Mitigation Measures Related to Earth Resources), the SOCTIIP build Alternatives would result in minor impacts related to temporary groundwater level lowering effects during construction, potential need for excess soil disposal and increased impermeable surfaces. The A7C-ALPV Alternative will result in a permanent impact to one mapped spring. These impacts of the SOCTIIP build Alternatives would be substantially mitigated and/or avoided based on project mitigation and standard design and construction practices.

The other projects have identified impacts and mitigation similar to the SOCTIIP build Alternatives. These impacts would be substantially mitigated or avoided. Therefore, because the impacts of the SOCTIIP build Alternatives and other cumulative projects on earth resources would be substantially mitigated or avoided, no cumulative impacts are anticipated.

Build out of the MPAH and the land uses assumed under the No Action Alternatives would result in earth resources impacts similar to the SOCTIIP build Alternatives. It is expected that these potential adverse impacts could be avoided and/or substantially mitigated and would not contribute to cumulative adverse impacts related to earth resources. Because there are no SOCTIIP improvements under the No Action Alternatives, these Alternatives would not have incremental impacts individually or when considered with the other projects in the study area on earth resources.

The Prima Deshecha Sanitary Landfill GDP suggests that there is a demand for soil to be used as cover material. Considering the proximity of some of the SOCTIIP build Alternatives to the landfill, and the potential for excess soil to be generated from construction of most of the build Alternatives, it would appear possible that there is a potential for the two projects to coordinate and therefore make use of excess soil that may be available during construction of the SOCTIIP Alternatives.

5.3.18 CUMULATIVE IMPACTS RELATED TO MILITARY USES

Impacts to the Military Mission and uses at the Base have been occurring over a long period of time. As the area to the north of the base is developed, which is generally described in Section 5.1.3, the presence of residential development so close to the base has created a situation where ongoing training activities become a nuisance to the newer surrounding development. In addition other forms of encroachment also have impacted the training operations at the Base. This has become such an encompassing problem that actions resulting in any impact to the Base contribute to a cumulative adverse impact on the Military Mission for MCB Camp Pendleton. The study area for potential cumulative impacts on MCB Camp Pendleton is the Base and its airspace and seaspace.

5.3.18.1 Cumulative Impacts to Military Uses

Concerns of MCB Camp Pendleton Related to Cumulative Encroachment Impacts on ~~Their~~ its Military Mission

For cumulative impacts related to Camp Pendleton, one of the most substantive issues for consideration is the issue of encroachment as explained in detail in Section 4.21 (Affected Environment, Impacts and Mitigation Measures Related to Military Uses). Today, the ability of Marine Corps units to train effectively at Camp Pendleton is being eroded by encroachment on many fronts. Increasing urbanization, environmental restrictions and increasing requests from civilian authorities for use of Camp Pendleton's land, airspace and seaspace threaten the long-term sustained use of this Marine Corps installation. Encroachment at Camp Pendleton comes in many forms, but generally is an outgrowth of two major factors: increased environmental regulations and increased urbanization in the regional area around the Base. Consideration must be given to projects that might diminish or prevent the ability of MCB Camp Pendleton to conduct and/or expand its Military Mission and training capabilities by eliminating Base land areas where new facilities or training areas might be added in the future or by increasing non-military land uses immediately adjacent to the Base.

Previous encroachments onto Camp Pendleton, discussed earlier in Section 4.21, include:

- Restrictive environmental regulations which limit areas on the Base that can be used for training activities and which limit the types of training activities which can be conducted on parts of the Base.

- Land for the San Onofre State Beach park including both inland and beach areas totaling approximately 810 ha (2,000 ac).
- Land for the San Onofre Nuclear Generating Station facility (162 ha; 400 ac).
- Agricultural activities (527 ha, 1,300 ac).
- A Boy Scout campground (20 ha, 50 ac).
- Six public elementary schools (37 ha, 92 ac).
- A wide range of easements and other public utility rights-of-way for a variety of transmission lines for electricity, natural gas, water distribution, aviation fuel, telephone, telecommunication and fiber optic cables, which crisscross a number of areas on the Base.
- Easements and rights-of-way for I-5 and a double-tracked rail line (for both freight and passenger train operations).

All these facilities and easements represent various forms of man-made encroachments, which in their own individual ways, each impede the Marine Corps' ability to use certain areas of the Base for military training operations.

Encroachment of the SOCTIIP Alternatives on MCB Camp Pendleton

Camp Pendleton is considered by the United States Department of Defense (DoD) to be a unique national asset, and any degradation of this installation's ability to train Marines to fight and win on the battlefield is not in the best interests of the United States. The types of encroachment the Base has faced over the years indicate why it is critical to limit, as much as possible, any further encroachment on the Base and to military training uses on the Base. This has been exacerbated by the heightened military response and activities associated with the events of September 11, 2001 and the war on Iraq in 2003. It is for these reasons that the Commandant of the Marine Corps (CMC) reiterated in February 2002 the Marine Corps' longstanding position that only the FEC-M and FEC-W Alternatives alignment would be considered by Camp Pendleton, if they meet conditions described in the 1988 Commandant Letter and the 1992 "Statement of Intent." Because the A7C-FEC-M/Preferred Alternative shares the same alignment on the Base as the FEC Alternative, it is assumed that the A7C-FEC-M/PreferredAlternative would also be considered by Camp Pendleton, if it meets the conditions in the 1988 Commandant Letter and the 1992 "Statement of Intent." Both Camp Pendleton and the CMC have consistently indicated that any further encroachment into the Base, beyond the FEC alignment, would be unacceptable.

The CC Alternative includes widening of a short segment of I-5 in the northwestern most part of San Diego County, adjacent to Camp Pendleton. However, this Alternative will not require acquisition of any additional I-5 right-of-way from Camp Pendleton; it consists only of widening the existing freeway facility within the existing freeway right-of-way. Therefore, this Alternative does not result in new encroachments into Camp Pendleton.

The I-5 Alternative results in the widening of I-5 adjacent to the northernmost parts of the Base. This Alternative would require the acquisition of easements for small amounts of land from the Base, in the area currently occupied by SOSB.

With the exception of the CC Alternative, the other build Alternatives on and near the Base would adversely impact the Base as a result of the acquisition of easements from the Base. The I-5 Alternative would take only a small amount of land from the State Beach; the other alternatives bisect the Base and result in both the permanent acquisition of land for the road and the permanent fragmentation of Base land on the north side of the road from the rest of the Base on the south side of the road.

Cumulative Projects in the SOCTIIP Study Area

Camp Pendleton reviewed the Notice of Preparation (NOP) for the proposed Ranch Plan for the Rancho Mission Viejo (RMV) and provided comments on that NOP to the County of Orange (March 24, 2003). Based on the preliminary land use plans for the RMV as described in the NOP, Camp Pendleton identified a potential conflict between the existing military training uses on Camp Pendleton and proposed residential uses in Planning Area (PA) 8 on the Ranch Plan. Camp Pendleton specifically indicated that existing noise generating activities on the Base associated with aviation and ground training activities could adversely impact planned residential uses and future residents in PA 8. Camp Pendleton requested that the EIR for the Ranch Plan address the potential conflicts between the existing military uses on Camp Pendleton and the planned residential uses on RMV in the vicinity of the Camp Pendleton boundary. If residential uses are adopted for lands adjacent to Camp Pendleton such as in PA 8, Camp Pendleton requested that those future residents be required to sign disclosures ensuring that they understand and are aware of the types of military training operations that generally occur at Camp Pendleton, including aviation and ground training activities.

Camp Pendleton further requested that the objectives of the Ranch Plan be expanded to include the support of land uses compatible with the long-term sustainability of natural habitats and species on adjacent open space lands such as parts of Camp Pendleton, including the prevention of edge effects on those lands.

All these concerns are directly related to the potential for encroachment impacts on Camp Pendleton under the Ranch Plan, if potentially noise sensitive land uses such as residential uses are developed in the vicinity of the Camp Pendleton boundary with the RMV or if the planned land uses are not compatible with existing open space and habitat uses. As such, it is assumed that the proposed RMV plan could result in adverse encroachment impacts on Camp Pendleton, if the proposed residential uses in PA 8 are developed without adequate analysis in the EIR and without adequate notification to future residents of that development or if the Ranch Plan land uses are not compatible with adjacent open space and habitat uses.

None of the other cumulative land use and transportation projects in the SOCTIIP study area, including build out of the MPAH and the land uses assumed under the build and No Action Alternatives, will result in potential environmental impacts or encroachments on Camp Pendleton. The available environmental documentation and information for these projects do not indicate adverse impacts related to Camp Pendleton and the Mission of Camp Pendleton. This is because these projects do not encroach directly onto the Base, are not directly adjacent to the Base and/or do not include uses which would potentially result in adverse impacts on the Base. In addition, for some projects, there is either no environmental documentation prepared to date or the documentation was not available from the applicable agencies for this analysis.

Potential for Cumulative Impacts Related to Military Impacts

As described in Section 4.21 (Affected Environment, Impacts and Mitigation Measures Related to Military Uses), the following SOCTIIP build Alternatives could potentially result in short- and long-term adverse impacts related to Camp Pendleton and its Military Mission:

- FEC-W Alternative.
- FEC-M Alternative.
- A7C-FEC-M Alternative/Preferred Alternative.

- CC Alternative.
- I-5 Alternative.

Each of these alternatives encroaches onto or is immediately adjacent to the Base. When considered with other projects having easements granted by the Base, including the 1994 North County Transit District (NCTD) easement for its rail facilities and other development adjacent to the Base in both Orange and San Diego Counties, there continues to be a reduction of land buffer area around MCB Camp Pendleton. Three SOCTIIP corridor Alternatives share a common alignment (the FEC-W, FEC-M_2 and A7C-FEC-M/Preferred alignments) on the Base and not only reduce or eliminate part of the buffer that currently exists, but each also reduces the land on the Base that would be available for military training or as a buffer between on Base military training activities and off site land uses. The CC Alternative includes widening of a short segment of I-5 adjacent to Camp Pendleton but will not require acquisition of any right-of-way from Camp Pendleton and would not result in new encroachments into Camp Pendleton. The I-5 Alternative would remove a small part of the Base in the northernmost part of SOSB. In summary, these SOCTIIP build Alternatives and other projects near the Base will continue to contribute to cumulative adverse impacts on Camp Pendleton associated with encroachment onto the Base and the reduction in buffer along the Base boundary. These encroachments and reduction in buffer are considered by the DoD and CMC to directly affect the ability of the Corps to most effectively perform its Military Mission at Camp Pendleton.

The remaining SOCTIIP build Alternatives and the No Action Alternatives would not contribute to cumulative adverse impacts on Camp Pendleton because these Alternatives do not propose any SOCTIIP improvements on or in the immediate vicinity of Camp Pendleton.

5.3.19 CUMULATIVE IMPACTS RELATED TO MINERAL RESOURCES

The study area for cumulative mineral resources impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east into Camp Pendleton, as shown on Figure 5.1-1. The cumulative projects in Tables 5.1-1 to 5.1-5 were assessed for their potential to adversely impact mineral resources in the study area. ~~The only~~A cumulative project that impacts mineral resources in the SOCTIIP study area is the Arroyo Trabuco Golf Course. That project would result in an adverse impact related to mineral resources as a result of reduction in the long-term availability of sand and gravel resources on this project site. ~~Although not fully defined at this time, it is possible that the~~The proposed land uses on RMV under the Ranch Plan ~~could~~ would adversely affected opportunities to extract sand and gravel resources on the Ranch, at the location of the previously operated sand and gravel extraction facility. The Ranch Plan EIR found that the project would result in project and cumulative impacts to mineral resources that were significant and unavoidable. The minor impacts of the SOCTIIP build Alternatives related to sand and gravel resources, combined with the adverse impacts of the Golf Course and the potential impacts of the Ranch Plan on sand and gravel resources on RMV, would be a cumulative adverse impact on mineral resources in the SOCTIIP study area.

Build out of the MPAH and the land uses assumed under the No Action Alternatives could result in adverse impacts on mineral resources and could not contribute to a cumulative adverse impact related to mineral resources. Because the No Action Alternatives do not proposed any SOCTIIP improvements, these Alternatives would not have any impacts on mineral resources and, therefore, would not contribute to cumulative impacts on mineral resources in the study area.

5.3.20 CUMULATIVE IMPACTS RELATED TO PALEONTOLOGICAL RESOURCES

Table 5.3-12 lists the cumulative projects in the SOCTIIP study area, the potential impacts of those projects related to paleontological resources and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. The study area for cumulative paleontological resources impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east into Camp Pendleton, as shown on Figure 5.1-1. The cumulative projects in Tables 5.1-1 to 5.1-5 were assessed for their potential to adversely impact paleontological resources in the study area.

Cumulative impacts on paleontological resources result when rock units and associated fossils become unavailable for study and observation by scientists as a result of multiple development projects in an area. As described earlier in Section 4.23 (Affected Environment, Impacts and Mitigation Measures Related to Paleontological Resources), the SOCTIIP build Alternatives would potentially result in adverse impacts during construction related to the destruction of paleontological resources, the destruction of geologic formations, both in natural outcrop and in areas that are currently subsurface, and the loss of data associated with paleontological resources. Long-term impacts are primarily the result of increased human presence, and the increased opportunity for additional impact. The majority of cumulative projects requiring construction in the SOCTIIP area have the potential to create the same types of adverse impacts on paleontological resources as the SOCTIIP build Alternatives.

The destruction of fossils and geologic rock units produces a cumulative impact because these non-renewable records of ancient life become permanently unavailable. In assessing cumulative impacts, it is the quantity of native rock and fossils already made unavailable for study in Orange County due to existing development that must be considered in addition to the cumulative projects planned for the future.

There is a cumulative adverse impact on paleontological resources as a result of the SOCTIIP and other projects. ~~However, w~~With the implementation of mitigation measures, these impacts are ~~substantially mitigated~~reduced below a level of significance. Therefore, the SOCTIIP build Alternatives would not contribute appreciably to a cumulative adverse impact related to paleontological resources.

Build out of the MPAH and the land uses assumed under the No Action Alternatives ~~e~~would result in adverse impacts on paleontological resources which would be expected to be substantially mitigated. Because the No Action Alternatives do not propose any SOCTIIP improvements, these Alternatives would not have any cumulative impacts on paleontological resources.

5.3.21 CUMULATIVE IMPACTS RELATED TO PUBLIC SERVICES AND UTILITIES

5.3.21.1 Cumulative Impacts Related to Public Services

As described earlier in Section 4.24 (Affected Environment, Impacts and Mitigation Measures Related to Public Services and Utilities), the SOCTIIP build Alternatives would result in short- and long-term adverse impacts related to public services during construction and operation. The cumulative public services impacts that would result from implementation of the SOCTIIP build Alternatives in conjunction with the other projects in the area are described below. The study area for cumulative public services and utilities impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east into Camp Pendleton, as shown on Figure 5.1-1. The cumulative development trends described in Section 5.1.3 along with recent past, present and future projects listed in Tables 5.1-1 to 5.1-5 were assessed for their potential to adversely impact public services and utilities in the study area.

Fire Protection and Emergency Medical Services

All the SOCTIIP build Alternatives, except the I-5 Alternative, would have short- and long-term adverse impacts related to increased risk of wildfires. This risk is also identified for other projects in the area, as shown in Table 5.3-13. The Ranch Plan EIR found that the project could result in significant effects to fire protection until such time as the Secured Fire Protection Agreement with OCFA is met. The mitigation measures provided for the SOCTIIP build Alternatives and the other projects in the area considerably reduce this wildfire risk. Therefore, these projects would not result in cumulative short- or long-term adverse impacts related to wildfires.

The CC and I-5 Alternatives would increase fire and emergency medical service response times during construction and operations due to changes in access in the study area. As shown in Table 5.3-14, the impacts of other projects in the SOCTIIP study area associated with fire and emergency medical service are generally related to increased service demand as a result of increased population and employment. The mitigation measures provided for the SOCTIIP build Alternatives and the mitigation measures for these other projects considerably reduce these adverse impacts. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, would not result in cumulative short- or long-term adverse impacts related to fire and emergency medical service.

Build out of the MPAH assumed under the No Action Alternatives may result in some improvement to emergency service provider response times. However, build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to emergency services providers' emergency response times and service levels. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to emergency services as a result of the SOCTIIP.

Law Enforcement

The CC and I-5 Alternatives would increase law enforcement response times during construction and operations due to changes in access in the study area. As shown in Table 5.3-13, the impacts of other projects in the SOCTIIP study area associated with law enforcement are generally related to increased service demand. The mitigation measures provided for the SOCTIIP build Alternatives and the mitigation measures for these other projects considerably reduce these adverse impacts. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, would not result in cumulative short- or long-term adverse impacts related to law enforcement service.

Build out of the MPAH assumed under the No Action Alternatives may result in some improvement to law enforcement provider response times. However, build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to law enforcement services providers' emergency response times and service levels. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to law enforcement emergency services as a result of the SOCTIIP.

Solid Waste Disposal Services

The CC, CC-ALPV, A7C-ALPV and AIO Alternatives would result in loss of capacity and shortened life span at the Prima Deshecha Sanitary Landfill because these alignments cross the Landfill site. In addition, all the SOCTIIP build Alternatives will result in the disposal of waste materials that are anticipated to be disposed of at this Landfill. It is possible that some waste may be disposed of at other landfills in southern California. These impacts would be adverse, and considered with the waste disposal

needs of the other cumulative projects in the area listed in Table 5.3-13, would result in adverse long-term cumulative impacts on solid waste disposal. The A7C-ALPV would have the greatest impact on capacity and lifespan of the Prima Deshecha Landfill, reducing the lifespan by 4.9 years, whereas, the CC and CC-ALPV Alternatives would reduce the lifespan by 1.9 year. The AIO Alternative would reduce the lifespan by 0.1 year.

Build out of the MPAH assumed under the No Action Alternatives may result in a minor increase in waste collected along area roads. Build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to solid waste disposal based on new land uses in the area. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to solid waste disposal as a result of the SOCTIIP.

Schools

As discussed earlier Section 4.24, the CC, AIO and I-5 Alternatives all result in adverse impacts on schools, particularly the permanent acquisition of property currently used by these schools for sports fields and, in a few cases, for school buildings. The CC-ALPV and A7C-ALPV Alternatives result in the temporary loss of use only of school property. As shown in Table 5.3-13, the impacts of other projects in the study area associated with schools are generally related to increased service demand and the resulting need for additional schools. However, mitigation measures have been provided for these projects to reduce the impacts of these alternatives on school facilities. The mitigation measures provided for the SOCTIIP build Alternatives that result in school impacts would not fully mitigate the adverse impacts of these alternatives on school facilities. While the loss of these school facilities and buildings under the SOCTIIP build Alternatives would contribute to an adverse impact related to schools, it is not known whether they may result in a cumulative impact to public service facilities.. The I-5 Alternative would have the greatest impact on schools, as it would affect six school properties, while the CC and AIO Alternatives each impact one school property.

Build out of the MPAH assumed under the No Action Alternatives would not be expected to result in adverse impacts on schools unless schools are located adjacent to the improved roads. Build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to increased demand for schools as a result of new residential uses in the area. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to schools in the study area as a result of the SOCTIIP.

Public Services Facilities

As discussed earlier in Section 4.24, the CC and I-5 Alternatives would result in adverse impacts on the San Clemente Post Office. The I-5 Alternative would adversely impact the Lake Forest City Hall, Laguna Hills City Hall and Buccheim Fields. The mitigation for the impacts of the SOCTIIP Alternatives on public facilities is anticipated to fully mitigate the adverse impacts on these facilities with the exception of the Buccheim Fields. This type of impact has not been identified for the other projects in the study area. Therefore, these Alternatives would not contribute to an adverse cumulative impact related to public services.

Build out of the MPAH assumed under the No Action Alternatives could result in adverse impacts on public facilities if those facilities are located adjacent to the improved roads. Build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to increased demand for public services which could result in the need for expanded public services facilities in the study area. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP

infrastructure improvements, they will not contribute to cumulative adverse impacts related to public facilities in the study area as a result of the SOCTIIP.

5.3.21.2 Potential for Cumulative Impacts Related To Utilities

As described earlier in 4.24, the SOCTIIP build Alternatives would require the protection in place or relocation of utilities within the disturbance limits. Therefore, no long-term impacts to utilities are anticipated under the SOCTIIP build Alternatives. This activity could potentially damage utilities or cause a temporary interruption in service. This same type of impact has been identified for the other projects listed on Table 5.3-13. The mitigation measures provided for the SOCTIIP Alternatives and these other projects reduce the potential for this adverse impact to occur. Therefore, the SOCTIIP build Alternatives, when considered with these other projects, would not result in a cumulative short-term adverse impact related to utilities.

Build out of the MPAH assumed under the No Action Alternatives could result in adverse impacts on utilities related to the need to relocate or modify utilities in the rights-of-way for the road improvements. Build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to increased demand for public utilities which could result in the need for expanded public utilities facilities and service levels in the study area. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to public utilities in the study area as a result of the SOCTIIP.

5.3.22 CUMULATIVE IMPACTS RELATED TO RECREATION RESOURCES

5.3.22.1 Overview

Construction of any of the SOCTIIP build Alternatives would result in the direct and indirect effects of that SOCTIIP Alternative as well as the cumulative effects of the SOCTIIP project combined with other related past, present and reasonably foreseeable future actions. This analysis considers both direct (property acquisition) and indirect (noise, traffic, visual and air quality) impacts on recreation resources associated with the SOCTIIP alternatives. As discussed in Section 4.25 (Affected Environment, Impacts and Mitigation Measures Related to Recreation Resources), residential uses and, to a lesser degree, commercial uses are associated with demand for recreation resources. In general, transportation projects do not generate demand for recreation uses because highways and roads do not have residents or employees associated with the specific road project. Because partial or full acquisition of some recreation resources would be required for the SOCTIIP build Alternatives, some recreation facilities or amenities in the SOCTIIP study area may not be available for use in the future, either temporarily during construction and/or in the long-term during operation. A reduction in these resources would shift demand to other local or regional facilities and could contribute to a cumulative increase in demand for recreation resources. Generally, the previous development trends do not result in cumulative impacts to recreation resources, since the rural to urban conversion does not necessarily limit recreational opportunities.

Recreation resources in the SOCTIIP study area serve local, regional and state demand for outdoor recreation. Many of these resources have special features or amenities such as beaches/beach access, water features, natural areas or sports amenities and, as a result, it may be difficult finding comparable land to replace them, especially in urbanized areas. Therefore, impacts to recreation resources that cannot be mitigated on site are not only considered adverse but may also be considered adverse on a cumulative basis.

To ensure that adequate recreation resources are maintained for residents, local jurisdictions have adopted park standards and design guidelines for new residential developments. In addition, local jurisdictions are

required to meet the intent of the Quimby Act which requires the provision of local parks or fees paid for local parks by developers. Jurisdictions in the SOCTIIP study area have implemented their General Plan Open Space and Recreation Elements as part of ongoing development. The demand for recreation resources is anticipated to increase in this part of Orange County, associated with approved and planned residential developments such as the approved Talega and Ladera developments and the planned Rancho Mission Viejo (RMV) development. The Talega and Ladera projects include recreation and open space uses intended to meet the recreation needs of their residents. It is anticipated that the RMV development will also include recreation resources for its residents.

In addition, planned regional and special use recreation facilities, such as the Prima Deshecha Regional Park and golf courses, will meet recreation needs for residents in the SOCTIIP study area. ~~Additional planned facilities include a 486 ha (1,200 ac) regional park, other open space and trails associated with the development on the RMV property (RMV Development Planning Application, November 2001).~~ The Ranch Plan as approved by the County incorporates a variety of recreation amenities, including a 20- to 25-acre sports park, trail segments and linkages, a bikeway, five golf courses, and local park sites. In general, the approved and planned developments in the SOCTIIP study area are or will be required to meet defined requirements for open space, trails and parks as part of the development planning process pursuant to the County of Orange and other local jurisdictions' General Plan policies. Therefore, the SOCTIIP Alternatives and the planned developments in the area either do not generate new recreation demand or are anticipated to meet existing and future recreation needs based on recreation resources included in the planned developments or in the study area. If a proposed development is adjacent to a proposed regional park or trail, it will be required to provide some level of improvement or means to implement the proposed regional resource.

The study area for cumulative recreation resources impacts is the same as the study area defined for land use, extending from the I-5/I-405 interchange south along I-5 and then extending east into Camp Pendleton, as shown on Figure 5.1-1. The cumulative projects in Tables 5.1-1 to 5.1-5 were assessed for their potential to adversely impact recreation resources in the study area.

Table 5.3-14 lists the cumulative projects in the SOCTIIP study area, the potential impacts of those projects related to recreation resources and mitigation measures incorporated in those projects to avoid or substantially reduce identified adverse impacts. Many of the mitigation measures in 5.3-14 refer to plans, dedication or in lieu fee payment for the provision of local parks to meet needs generated by planned residential developments. This analysis does not quantify whether or not the existing and planned recreation resources within each jurisdiction will meet that jurisdiction's future recreation needs or requirements. Each jurisdiction decides and manages its own public park provision and plans and it is at the discretion of the individual jurisdiction as to how to fulfill its recreation needs. For example, the planning and environmental analyses for a specific project may indicate that a certain size park facility is needed to meet that development's needs for recreation resources or to avoid impacts of that development on existing recreation facilities. The local jurisdiction may require the proposed development to dedicate land for recreation resources or may accept in lieu fees and use those fees for improvements to an existing or planned facility.

5.3.22.2 Potential for Cumulative Impacts Related to Recreation Resources

As described earlier in Section 4.25, the SOCTIIP build Alternatives could result in both short-term adverse impacts on recreation resources during construction and long-term adverse impacts related to direct and indirect impacts on recreation resources. Although short-term impacts are of concern, these can frequently be substantially mitigated and are not considered permanent and likely would not contribute to cumulative impacts. Long-term impacts may contribute to cumulative impacts related to recreation resources, especially those impacts that cannot be mitigated and that result in either a net loss

in recreation resources or substantial permanent degradation of resources or amenities at those resource sites.

As discussed previously, because the SOCTIIP build Alternatives do not entail the development of residential or commercial uses, they will not result in impacts related to increased demand for recreation resources. The SOCTIIP build Alternatives would contribute to cumulative impacts related to recreation resources in the study area as a result of direct impacts and/or indirect impacts such as noise, air quality and visual impacts.

The SOCTIIP build Alternatives will directly affect a number of recreation resources in the SOCTIIP study area. The impacted resources are SOSB Subunits 1 and 2, the sports fields at San Clemente High School and Ole Hanson Elementary School, The Donna O'Neill Land Conservancy, proposed Prima Deshecha Regional Park, Talega Golf Course and three proposed Regional Riding and Hiking Trails: the San Juan Creek trail extension, the Cristianitos trail and the Prima Deshecha trail.

The potential for the SOCTIIP Alternatives to contribute to cumulative impacts on recreation resources was assessed based on:

- How much of the existing and planned resources are directly affected by the SOCTIIP Alternatives, in terms of area and/or amenities removed as a result of the alternative.
- The extent to which existing and planned recreational opportunities would be removed from the SOCTIIP study area.

Impacts to neighborhood and community recreation resources are considered cumulatively adverse. Although they serve a limited area and do not generally include special amenities, their loss is considered adverse and cumulative as it exerts pressure on other facilities to absorb the demand that can't be met by reduced facilities. Although the demand for many of these local recreation resources can probably be met with existing facilities elsewhere in the jurisdiction, there remains an adverse cumulative impact. Regional or state recreation resources are considered to be more affected by direct impacts due to the uniqueness of those facilities or the amenities provided at these resources, including beaches, hiking trails, scenic vistas, native plants and animals, and the larger service areas for these resources.

Build out of the MPAH assumed under the No Action Alternatives could result in adverse impacts on recreation resources, either directly by using land from recreation facilities for the road improvement or indirectly as a result of noise, air quality and visual impacts on recreation facilities in the vicinity of the improved roads. Build out of the land uses assumed in the No Action Alternatives could result in adverse impacts related to increased demand for recreation facilities and the need for new or expanded recreation facilities. In addition, these assumed land uses could result in indirect impacts on recreation resources as a result of noise, air quality and visual impacts on recreation facilities in the vicinity of these land uses. Because the No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements, they will not contribute to cumulative adverse impacts related to recreation resources in the study area as a result of the SOCTIIP.

The major recreation facilities in the SOCTIIP study area which are affected by the SOCTIIP build Alternatives are discussed below. This discussion focuses on the cumulative direct impacts of the SOCTIIP Alternatives on these resources and the potential impairment of the resources as a result of the alternatives.

5.3.22.3 San Onofre State Beach: Subunits 1 and 2

San Onofre State Beach (SOSB) is a state resource which provides park, beach and camping amenities for a population beyond the immediate region. The property, consisting of four subunits (only three of the four SOSB Subunits will potentially be impacted by the SOCTIIP build Alternatives; SOSB Bluffs Subunit 4 is outside of the study area and would not be impacted by the Alternatives), is leased from MCB Camp Pendleton under a 50-year lease agreement expiring September 1, 2021. The Department of the Navy reserved the right, in the lease, to grant easements for right-of-way. As a super-regional resource, this park covers a service area beyond southern California. The FEC-W, FEC-M, and A7C-FEC-M/Preferred Alternatives will divide Subunit 1 as they cross this part of the Park, and will impact 135 ha (334 ac) under the Initial and 144 ha (357 ac) under the Ultimate at this Park. It is not anticipated that these impacts can be fully mitigated on site. Therefore, the impacts of these SOCTIIP build Alternatives would reduce the amount of state park land available for recreation uses. Many of the other cumulative projects in the SOCTIIP study area will provide recreation resources although these tend to be at the community and regional level and would not provide the types of resources that would be impacted by these SOCTIIP build Alternatives at SOSB Subunits 1 and 2. Therefore, the FEC-W, FEC-M and A7C-FEC-M/Preferred Alternatives would result in a net loss of state park resources which would be considered an adverse impact on SOSB Subunits 1 and 2.

5.3.22.4 San Clemente High School and Ole Hanson Elementary School

The sports fields associated with San Clemente High School and Ole Hanson Elementary School would be impacted by the CC Alternative. These SOCTIIP Alternatives would impact 1.7 ha (4.3 ac) of the outdoor use areas associated with these schools. There does not appear to be any areas in proximity to these schools to replace these fields. This is considered an adverse impact of these SOCTIIP build Alternatives related to both recreation resources and public services. From a public recreation resources perspective although public access to these school-based resources is relatively limited and there are other recreation resources available in the vicinity, the loss would exert pressure on the facilities resulting in an adverse cumulative impact. The impacts of these SOCTIIP build Alternatives on school based recreation resources would contribute to an adverse cumulative impact related to recreation resources.

5.3.22.5 The Donna O'Neill Land Conservancy

The FEC-W, FEC-M, and A7C-FEC-M/Preferred Alternatives cross part of The Donna O'Neill Land Conservancy. Although these impacts are considered adverse on a project level, public access to The Donna O'Neill Land Conservancy is limited to appointment only and is not for the purpose of traditional recreation use. This resource is not a traditional recreation resource in that its primary purpose is the protection of native plant and animal species and access is largely limited to scientific and conservation purposes. The Donna O'Neill Land Conservancy does not serve as an active recreation resource and does not meet specific programmed County of Orange demands for active and passive recreation resources in the County. Therefore, the loss of part of The Donna O'Neill Land Conservancy under these SOCTIIP build Alternatives would not contribute to a cumulative adverse impact on recreation resources in south Orange County.

5.3.22.6 Proposed Prima Deshecha Regional Park

Four SOCTIIP build Alternatives (CC, CC-ALPV, A7C-ALPV and AIO) cross the site for the proposed Prima Deshecha Regional Park at the Prima Deshecha Sanitary Landfill. This proposed regional park is planned to be phased in after landfilling is terminated after the closure of landfilling operations in approximately 2067. According to Draft EIR 575 for the 2001 Prima Deshecha General Development Plan (GDP) "...[park] activities would be determined through a needs analysis and a park plan undertaken

near the time of closure." At this time, it is speculative to assess exactly how the SOCTIIP build Alternatives might affect this proposed park. Because a preferred alternative would be selected several years before 2067, there is no reason to believe that an active park could not be planned and implemented.

The A7C-ALPV Alternative divides the area where the proposed park is planned which could affect how recreation uses are planned on the site.

The AIO Alternative proposes only minor widening of La Pata Avenue which currently is aligned through the middle of the Prima Deshecha Sanitary Landfill site. Therefore, expansion by only one lane of this existing road would not substantially affect future park plans.

The CC and CC-ALPV Alternatives generally follow the La Pata Avenue alignment through the Landfill site. However, it would result in greater impacts in this area, because of the wider cross section, with these impacts occurring in the area already occupied by La Pata Avenue.

Because this is a recreation resource which is not yet planned in detail and which will not be available to the public for a number of years, it is not possible to assess what impacts the SOCTIIP Alternatives might have on this future recreation use. At a minimum, the acquisition of Landfill property for these SOCTIIP build Alternatives could result in a reduction of land available for this future regional park although the GDP does acknowledge a future road through this part of this future park. Because sites for regional parks are limited, this would be an adverse impact. However, it is anticipated that a planned regional park could accommodate these impacts in its design and, as noted, the GDP acknowledges this future road. In addition, there are other regional parks in south Orange County including the proposed 486 ha (1,200 ac) regional park proposed as part of the RMV development. The long-term commitment of planned parkland for a non-park purpose would be considered adverse. Without sufficient detail about this planned park, it is not possible to determine the type of recreational activities that would be impacted. The SOCTIIP build Alternatives do not preclude the use of this site as a future regional park. The SOCTIIP build Alternatives would not contribute to cumulative adverse impacts to the planned Prima Deshecha Regional Park in South Orange County because the GDP acknowledges a future road for this park.

5.3.22.7 Talega Golf Course

The Talega Golf Course is directly impacted by the A7C-ALPV Alternative which would cross through the middle of the course. Golf courses are considered special use recreation resources. Impacts to this golf course would not be cumulatively adverse, because no other project would impact this use.

5.3.22.8 Proposed Regional Riding and Hiking Trails

Three proposed regional trails will be impacted by some of the SOCTIIP Alternatives. These trails would be crossed by the alignments of the SOCTIIP build Alternatives. Section 4.25 includes mitigation measures to provide for trail crossings across the SOCTIIP alignments.

The proposed San Juan Creek Trail extension, the Cristianitos Trail and the Prima Deshecha Trail are regional riding and hiking trails shown in the County of Orange Master Plan of Regional Riding and Hiking Trails and in the County of Orange General Plan. Because these trails are proposed and no specific alignments have been identified for these trails, it is not possible to identify site specific impacts of the SOCTIIP alignments on these trails. However, any permanent impacts which would divide a trail and create a barrier towards continuous travel on the trail would be an adverse impact. Because the trail system has been affected in the past by other uses which affect the continuity of the trail system, impacts of the SOCTIIP Alternatives would be considered to contribute to a cumulative adverse impact on trail

continuity in south Orange County. As discussed earlier in Section 4.25, accommodation for trail crossings is included in the mitigation for SOCTIIP build Alternatives. Pending the verification of effective trail crossings, the SOCTIIP build Alternatives will include provisions to accommodate the trails and not result in cumulative adverse recreation impacts.

5.3.22.9 Summary of Potential Cumulative Impact on Recreation Resources

The following discussion highlights the conclusions related to cumulative impacts for recreation as a consequence of the implementation of the SOCTIIP Alternatives.

The underlying premise for these conclusions is that transportation projects do not generate demand for recreation uses. In addition, local jurisdictions are responsible for ensuring recreation needs are met for land use approvals, at least in part as a result of local provisions for parks or fees paid for by the development community.

Impacts to neighborhood and community recreation resources are considered cumulatively adverse as the loss or displacement would exert pressure on other facilities to offset the displaced amenity and/or have some impact on the planned recreational program in the community. However, there are no SOCTIIP Alternatives that directly impact an existing community or neighborhood park.

Impacts to state parks, including the SOSB, are considered cumulatively adverse. State parks, such as at SOSB, are regional, unique recreational opportunities, particularly in the case of SOSB which includes native plant communities and wildlife habitat, beaches and riparian water features which provide opportunities for passive activities such as bird watching and viewing blooming plants. Six SOCTIIP Alternatives would reduce the amount of land available for recreation uses at San Onofre State Park. The FEC-W, FEC-M$_2$ and A7C-FEC-M/Preferred Alternatives essentially subdivide Subunit 1 in the State Park, and displaces part of the Park acreage in the north, or northeastern parts of the Park. Therefore, these SOCTIIP Alternatives will contribute to adverse cumulative impacts on recreation resources.

Impacts to sports fields at local schools are identified at San Clemente High School and Hanson Elementary School as a result of the CC and CC-ALPV Alternatives and at proposed San Juan Hills High School Sports Fields as a result of the AIO Alternative. This loss would exert pressure on other institutions in the area to replace or compensate for the lost recreational opportunities. The impacts of these SOCTIIP build Alternatives on school-based recreation resources will contribute to an adverse cumulative impact.

The FEC-W, FEC-M$_2$ and A7C-FEC-M/Preferred Alternatives all cross The Donna O'Neill Land Conservancy property. The Donna O'Neill Land Conservancy does not serve as a public recreation resource and is largely limited to ecological study and conservation purposes. Because of this intended limited use of The Donna O'Neill Land Conservancy, these SOCTIIP build Alternatives would not contribute to cumulative adverse impacts on this recreation resource.

The CC, CC-ALPV, A7C-ALPV and AIO Alternatives cross the proposed Prima Deshecha Regional Park. Recreational components for this proposed project are not planned at present and precise impacts cannot be fully identified. However, depending on the alternative, the SOCTIIP build Alternatives will have either a direct impact or will have some incremental impact on the net acreage of recreational activity available at this proposed park. Although the park uses may not be fully developed for more than 60 years, the location of the SOCTIIP Alternative will either reduce planning flexibility or result in a direct take of acreage. However, because the GDP for the future park acknowledges a future road through this park, the impacts are not considered cumulatively adverse.

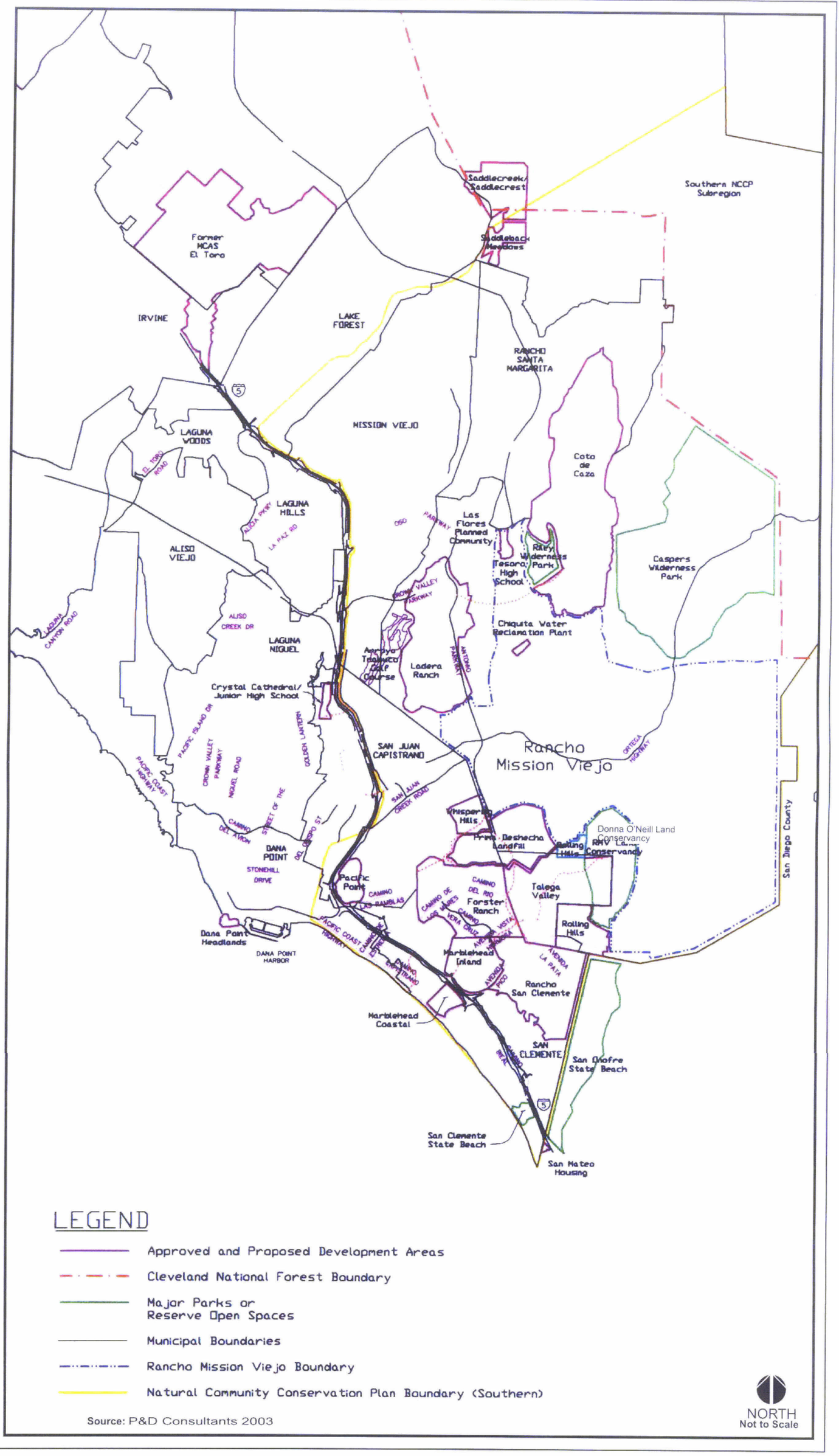
The A7C-ALPV Alternative crosses Talega Golf Course. This facility is open to the general public. The impacts of these SOCTIIP Alternatives are expected to result in adverse impacts on this golf course, but it will not result in cumulative impacts because no other projects would impact this or other golf courses in the study area.

The proposed San Juan Creek Trail extension, Cristianitos Trail and the Prima Deshecha Trail are regional riding and hiking trails and will be crossed by various SOCTIIP Alternatives. Because the trail system has been affected in the past by other uses which affect the continuity of the trail system, impacts of the SOCTIIP Alternatives would be considered to contribute to adverse cumulative impacts on recreation resources. Pending the verification of effective trail crossings, the SOCTIIP Alternatives will include provisions to accommodate the trails and not result in cumulative adverse recreation impacts.

The No Action Alternatives do not include construction or implementation of any SOCTIIP infrastructure improvements. Therefore, they will not contribute to cumulative adverse impacts related to recreation resources in the study area as a result of the SOCTIIP.

5.4 SUMMARY OF POTENTIAL CUMULATIVE IMPACTS

Table 5.4-1 briefly describes the existing conditions and trends related to a number of environmental parameters. Table 5.4-1 also summarizes the potential impacts of the SOCTIIP Alternatives and other cumulative projects and the identified mitigation for each environmental parameter. As shown, the SOCTIIP and other cumulative projects may result in cumulative adverse impacts related to the conversion of agricultural land, cultural resources, visual resources, military resources, mineral resources, paleontological resources, landfill capacity and recreation resources. Mitigation to avoid or substantially reduce these adverse impacts of the SOCTIIP Alternatives is identified in detail in Section 4.0.



Cumulative Projects

Figure 5.1-1

Table 5.1-1
Description of Major Cumulative Land Use Projects

Description of Project Land Uses	Source/Reference
Rolling Hills Planned Community (The Part Of The Talega Development In Unincorporated Orange County)	
772 ha (1,906 ac). 2,700 dus. Business and commercial uses. Public facilities.	"Final Environmental Impact Report Zone Change ZC 86-31P, Planned Community District Regulations, Feature Plan FP 88-1P, Rolling Hills, EIR No. 482" (County of Orange Environmental Management Agency, May 4, 1988).
Talega Valley Specific Plan (Champion Hills; The Part of the Talega Development in the City of San Clemente)	
6,496 ha (1,604 ac). 2,265 dus. 357 ha (822 ac) open space. 66.8 ha (165 ac) golf course. 70.9 ha (175 ac) Donna O'Neill Land Conservancy. Business and commercial uses. Public facilities.	"Draft Environmental Impact Report Talega Valley Specific Plan" (City of San Clemente, November 24, 2001).
Chiquita Canyon High School (Now Referred to as Tesoro High School)	
16.2 ha (40 ac). 18,600 square meters (sm) (200,000 square feet (sf) of buildings with 85 classrooms. Design capacity of 3,100 students.	"Final Environmental Impact Report for Chiquita Canyon High School" (Capistrano Unified School District, March 25, 1996).
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
The GDP calls for continued landfilling through 2069 and the development of a regional park after the landfilling is terminated.	"Draft Environmental Impact Report No. 575 2001 Prima Deshecha General Development Plan: Landfill Component, Circulation Component and Recreation Component" (Orange County Integrated Waste Management Department, January 31, 2001).
Whispering Hills Planned Community	
High school on 70.9 ha (175 ac). 193 single family dus and 73.3 ha (181 ac) open space.	Whispering Hills Revised Draft EIR (City of San Juan Capistrano, November 2001). Project was approved April 2002. Residential/open space component was repealed by residents (November 2002 election). School District passed exemptions from City zoning and is proceeding with development of school.
Forster Ranch Specific Plan Amendment	
1,617 dus on 218.3 ha (538.9 ac). 5.6 ha (14 ac) civic center. 2.8 ha (7 ac) commercial. 77.8 ha (192 ac) institutional. 15.6 ha (38.5 ac) public and roads. 154.7 ha (382 ac) open space and greenbelt.	"Subsequent Environmental Impact Report Forster Ranch Specific Plan Amendment" (City of San Clemente, September 23, 1997).
Marblehead Coastal	
Revised Proposal (2003): 101.5 ha (250.6 ac) site. 313 du on 25.1 ha (61.9 ac). 62,797.6 sm (675,243 sf) commercial. 36.4 ha (89.8 ac) parks and open space. 4.2 ha (10.4 ac) roads.	Revised proposal approved by the California Coastal Commission (CCC) on April 9, 2003 (Los Angeles Times, April 10, 2003). Revised documents will need to be prepared by the City of San Clemente consistent with the project approved by the CCC. Previous environmental documentation: "Final Environmental Impact Report for Marblehead Coastal General Plan Amendment 96-01, Specific 95-02 and Tentative Tract Map" (City of San Clemente, August 5, 1998).

Table 5.1-1 (continued)
Description of Major Cumulative Land Use Projects

Description of Project Land Uses	Source/Reference
Pacific Point/San Juan Meadows	
617 dus on 71.3 ha (176 ac). 10.2 ha (25 ac) research and development. 3.2 ha (7.8 ac) public and institutional. 32.4 ha (80 ac) open space, recreation and parks.	"Final Environmental Impact Report Pacific Point Amendment to Coastal Development Permit 81-1 (RZ 89-07) and General Plan Amendment GP 90-08" (City of San Juan Capistrano, August 1, 1991).
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera Planned Community)	
Road Alignment Alignment of Antonio Parkway between Oso Parkway and Ortega Highway. Addition of a secondary arterial from Crown Valley Parkway to Antonio Parkway. Deletions of extensions of Avery Parkway and Trabuco Creek Parkway from the MPAH. Deletion of a Class II bikeway on Avery Parkway from the Bikeways Master Plan. Redesignation of Avery Parkway as a landscape corridor in the Master Plan of Scenic Highways (MPSH). Deletion of Trabuco Creek Road from the MPSH. Land Uses 968 ha (2,390 ac). 8,100 dus. 45 ha (111 ac) urban activity centers. 23.9 ha (59 ac) parks and public facilities. 10.1 ha (25 ac) commercial uses. 243 ha (600 ac) open space.	"Draft Environmental Impact Report No. 555 Antonio Parkway Roadway Alignment and Land Use Plan: Land Use Element Amendment 95-4, Transportation Element Amendment 95-3, Community Profile Amendment 95-2 and Zone Change 94-5" (County of Orange Environmental Management Agency, May 1995).
Arroyo Trabuco Golf Course	
17.4 ha (43 ac). 18 hole golf course and accessory facilities. 25.5 ha (63 ac) ungraded natural land.	"Draft Environmental Impact Report Arroyo Trabuco Golf Course" (County of Orange Planning and Development Services Department, May 2001).
Rancho Mission Viejo General Plan Amendment (GPA)/Zone Change (ZC)	
Approximately 9,254 ha (22,850 ac) site, up to 14,000 dus, 52.7 ha (130 ac) of urban activity center, 104.5 ha (258 ac) of business park, 15.8 ha (39 ac) neighborhood center uses, up to four golf courses, a 437 ha (1,079 ac) regional park and 5,330.2 ha (13,161 ac) of open space of which 170 ha (420 ac) would be 100 residential sites, a golf course with attached dus, equestrian facilities and ranching activities. Amendments to the Land Use, Transportation, Resources and Recreation Elements of the General Plan and Zone Change from A-1 (General Agriculture and Sand and Gravel) to PC (Planned Community). Being processed concurrently with the SAMP and the NCCP.	Draft Rancho Mission Viejo Development Application (County of Orange Planning and Development Services Department, November 8, 2001). Notice of Preparation to Prepare a Draft Environmental Impact Report for the Rancho Mission Viejo General Plan Amendment/Zone Change (PA 01-114), the Ranch Plan, County of Orange, February 24, 2003.

Table 5.1-1 (continued)
Description of Major Cumulative Land Use Projects

Description of Project Land Uses	Source/Reference
Orange County Projections (OCP) – 2000 for Rmv	
21,000 dus projected for Rancho Mission Viejo buildout in 2025.	OCP-2000 (Orange County Council of Governments, June 2000). OCP-2000 is the adopted regional demographic projections (population and employment). No land uses or development entitlements are generated by these forecasts. OCP-2000 is included in the list of major cumulative projects to provide long term demographic data considered in the cumulative impacts analysis.
South Subregion Natural Community Conservation Plan/ Habitat Conservation Plan (NCCP/HCP)	
Undefined Actions. Undefined NCCP and SAMP. May determine the locations of development and habitat reserves, but it is unlikely that the intensity of development would change.	Federal Register Notice of Intent to prepare an Environmental Impact Statement (United States Fish and Wildlife Service, August 23, 2001). No environmental documents are available.
MCB Camp Pendleton	
Helicopter Outlying Lift Field (HOLF) mitigation area: conversion of approximately 15 ha (36 ac) of agricultural land to coastal sage scrub. Project is underway, with completion anticipated in 2003.	L. Rannals (01/03).
Refer to Table 5.1-2 for a listing of other minor improvement projects on Camp Pendleton.	"Marine Corps Base Camp Pendleton, California Master Plan" (Southwest Division Naval Facilities Engineering Command, September 1992).
San Onofre State Beach Outlease Existing Uses: campgrounds, beach trails. Proposed Uses: 18-hole golf course, primitive trails, secondary access from Avenida La Pata and tourist commercial.	San Onofre State Beach General Plan (1984), Mitigation from San Onofre Nuclear Generating Station Parking Lot Mitigation and Marine Corps Base Camp Pendleton, California Mater Plan (September 1992).
Reuse Of The Marine Corps Air Station (MCAS) El Toro (Now Referred to as the Orange County Great Park)	
Civilian international airport, park/open space, residential, commercial, industrial and public uses on approximately 1,900 ha (4,693 ac). This plan was rejected by the voters in 2002. Orange County "Great Park" which includes parks museums, open space and tourist uses. Private sale may change use. This land use plan was accepted by the voters in 2002. The proposed project includes annexation, General Plan and Zoning Amendments to accommodate a comprehensive land use plan occupying 35.9 ha (3,856,500 sf) including residential (225 dus), educational, cultural and institutional, transportation facilities, research and development, retail, office, auto center, agricultural, open space and road uses.	"Draft Environmental Impact Report No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport" (County of Orange, December 1999). File Nos. 47782-GA and 47785-ZC. Draft Environmental Impact Report (SCH No. 2002101020) City of Irvine, February 2003.
Proposed Saddle Creek/Saddle Crest (Foothill/Trabuco Area of Unincorporated Orange County)	
Zone Change to amend the Foothill/Trabuco Specific Plan to allow for: Saddle Creek: 127dus on 196 ha (484 ac). Saddle Crest: 35 dus on 46 ha (113.5 ac).	Zone change 99-02 for Area Plans 99-03 and 99-07. EIR No. 578 certified and Area Plans approved on January 28, 2003.

Table 5.1-1 (continued)
Description of Major Cumulative Land Use Projects

Description of Project Land Uses	Source/Reference
Saddleback Meadows (Foothill Area of Unincorporated Orange County)	
Site is 90 ha (222 ac). Proposed: 299 single family dus on 29.6 ha (73.1 ac) and open space on 60.3 ha (148.9 ac).	Saddleback Meadows Subsequent EIR 566 (County of Orange EIR 566 (1999) and Draft Subsequent EIR 566, April 2002).
Dana Point Headlands	
49 ha/121 ac site: 125 single family dus. 3,720 sm (40,000 sf) commercial site. 65-room inn. 12.3 ha (30.3 ac) conservation open space. 12.9 ha (31.7 ac) recreation open space with 790 sm (8,500 sf) visitor serving recreation facilities.	Project approved and Final EIR were certified January 22, 2002. (Source: City of Dana Point website www.danapoint.org/commdevelopment/ Headlands.htm. and personal communication with the City.) Project awaiting evaluation by the CCC.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
129 du on 13.2 ha (32.4 ac). Open space 16.1 ha (39.8 ac). Private streets 1.9 ha (4.62 ac). Public streets 0.7 ha (1.79 ac).	Honeyman Ranch Final Draft EIR circulated November 12, 2002 (City of San Juan Capistrano, 2002).
Other Development Projects In The Study Area	
These include commercial and residential projects as summarized in Table 5.1-2.	Various.
Master Plan Of Arterial Highways/Regional Transportation Plan Facilities And Improvements	
Refer to Tables 5.1-3 and 5.1-4 for MPAH/RTP committed and non-committed improvements.	SOCTIIP Traffic and Circulation Study (Austin-Foust Associates, 2003).
Caltrans Improvements	
Refer to Table 5.1-5 for listing of Caltrans projects.	Various.
Irvine Ranch Water District San Diego Creek Watershed Natural Treatment System Program	
Watershed treatment program for San Diego Creek with installation of Best Management Practices (BMPs) and detention basins in the watershed to reduce non-point source pollutants in runoff, water courses and beaches.	Irvine Ranch Water District Notice of Preparation (February 20, 2002). Project includes areas of Irvine, Lake Forest, Tustin between the Lomas de Santiago Ridge and the coastal bluffs of Newport Coast.

Source: P&D Consultants, (2003).

Table 5.1-2
Other Cumulative Land Use Projects

Development	Quantity	Units
City of San Juan Capistrano		
Home Depot[1]		
Hardware Center	106.7	TSF
Garden Center	24.225	TSF
Retail Building	35.062	TSF
Valle Road Self Storage	107.358	TSF
Capistrano Ford Dealership Site 2 - Auto Sales	4.9	Acres
San Juan Meadows		
Single Family Residential	275	du
Senior Housing	165	du
Office	61.0	TSF
Glendale Federal parcels "C" and "D"		
Single Family Residential	52	du
Condominiums	286	du
Glendale Federal Area "H" (TT 13726)		
Single Family Residential	63	du
Concorde Development - Single Family Residential	79	du
Pacific Point		
Single Family Residential	617	du
R&D Office	25.0	Ac
Fluidmaster Manufacturing Facility	183.046	TSF
Calle Perfecto Business Park - Industrial	82.7	TSF
Calle Perfecto Business Park II		
Industrial Development	133.685	TSF
TT 15771 - Single Family Residential	28	du
Capistrano Volkswagen (Valle Rd. San Juan Creek Rd.)		
Auto Sales	16.8	TSF
San Juan Meadows Equestrian Stables	3	TSF
El Parador Hotel (San Juan Creek at Valle Rd.)	300	Rms
Alipaz Village - Residential	150	du
Weseloh Chevrolet/Honda (Camino Capistrano)		
Auto Sales	23.4	TSF
Serra Plaza Offices (Del Obispo at Paseo Adelanto)	45.5	TSF
City of Dana Point		
Hillside Village South (PCH south of Crown Valley Parkway)		
Residential	48	du
Capo by the Sea - Residential	48	du
Holtz Hill - Residential	13	du
Dana Point Harbor Expansion		
Office	28.5	TSF
Hotel	42	Rms
Quasi Institutional (Marine Institute)	50,700	TSF
Boat Storage (dry)	471	Stalls
Boat Storage (docked)	18	Slips
St. Regis Hotel Offices (Monarch Beach)	70	TSF

Table 5.1-2 (continued)
Other Cumulative Land Use Projects

Development	Quantity	Units
South Coast Water District Business Park		
Office	83.1	TSF
Research and Development	164.221	TSF
Research and Development-Multi-Use Tenant	275.734	TSF
Storage	142.758	TSF
City of San Clemente		
Plaza Pacifica Commercial Site (Rancho San Clemente)	460	TSF
Avenida Vista Hermosa Interchange	n/a	
Talega Subdivisions 134.6 gross ha (269.1 gross acres)		
TT 16148 Area B-1A Village 3		
Single Family	245	du
Multiple Family	2	Lots
TT 16216 Area B-1B "Z" Lot - Single Family	91	du
TT 16215 Area B-1B Triplex - Multiple Family	144	du
TT 16252 Area A-2 Hammerhead - Single Family	76	du
MCB Camp Pendleton		
San Mateo Point Housing	120	du
Expansion of existing SDG&E Substation	Minor	--
Amtrak/Caltrans EIS underway for second mainline track.	Unknown	--
Home Base (31a) and Vehicle Primary Training Area (31b)	Introduction of a tracked vehicle in training exercises; based in 62 Area northwest of the agricultural lease area; potential for training in that lease area.	--

Sources:
1. Draft Program Environmental Impact Report" (Orange County IWMD, January 31, 2001). This project was rejected by the voters in 2002.
2. Updated with information from the Home Depot Project Draft EIR (September 20, 2001).
3. Updated with information from City of San Clemente City Council Agendas from 2002.
4. L. Rannals, Camp Pendleton (2002 and 2003).

TSF: Thousand square feet
du: Dwelling Units

[1] This project was voted down in an advisory vote in the City of San Juan Capistrano. Project status is pending City Council action.

Table 5.1-3
Committed Master Plan of Arterial Highways/Regional Transportation Plan
Facilities and Improvements

Facility	Jurisdiction	Improvement	Source
Alipaz St (north of Cm Del Avion)	San Juan Capistrano	Widen to four lanes	8
Antonio Pkwy (Oso Pkwy to southern boundary of Ladera Ranch)	County	Widen to six lanes	1
Avd La Pata (Avd Pico to Avd Vista Hermosa)	San Clemente	Construct as a six-lane major arterial	2
Avd Talega (east of Avd Vista Hermosa)	San Clemente	Extend as a four-lane secondary arterial	3
Avd Vista Hermosa (Cm Vera Cruz to north of Avd La Pata)	San Clemente	Construct as a four-lane primary arterial	2
Avd Vista Hermosa (Calle Frontera to I-5)	Caltrans/San Clemente	Construct as a four-lane primary arterial with an interchange at I-5	4
Cm Capistrano (south of Oso Rd to San Juan Capistrano city limits)	San Juan Capistrano	Widen to four lanes	8
Cm Capistrano (south of San Juan Creek Rd)	San Juan Capistrano	Widen to four lanes	8
Cm Vera Cruz (west of Avd Vista Hermosa)	San Clemente	Construct as a four-lane secondary arterial	2
Crown Valley Pkwy (I-5 to east of Trabuco Creek bridge)	County/Mission Viejo	Widen to eight lanes	5
Del Obispo St (Aguacate Rd to Paseo De La Paz)	San Juan Capistrano	Widen to four lanes	8
I-5 (Oso Pkwy to Crown Valley Pkwy)	Caltrans	Construct northbound auxiliary lane	6
Junipero Serra Rd (Cm Capistrano to Rancho Viejo Rd)	San Juan Capistrano	Widen to four lanes	8
Ortega Hwy (Via Cordova to San Juan Capistrano city limits)	San Juan Capistrano	Widen to four lanes	7,8
Ortega Hwy (San Juan Capistrano city limits to Antonio Pkwy)	County	Widen to four lanes	6,7
Rancho Viejo Rd (south of Junipero Serra Rd)	San Juan Capistrano	Widen to four lanes	8
SR-73 (north of I-5)	TCA/Caltrans	Widen to provide four general purpose lanes in each direction and one high occupancy vehicle (HOV) lane in each direction	9

Table 5.1-3 (continued)
Committed Master Plan of Arterial Highways/Regional Transportation Plan
Facilities and Improvements

Facility	Jurisdiction	Improvement	Source
SR-241 (Oso Pkwy to Santa Margarita Pkwy)	TCA/Caltrans	Widen to provide three general purpose lanes in each direction and one HOV lane in each direction	9
SR-241 (north of Santa Margarita Pkwy)	TCA/Caltrans	Widen to provide four general purpose lanes in each direction and one HOV lane in each direction	9

Sources: 1 – Conditioned for implementation with development of Ladera Ranch.
2 – Implemented through the City of San Clemente Regional Circulation Financing and Phasing Program (RCFPP).
3 – Conditioned for implementation with development of Talega.
4 – Improvement under construction by Caltrans and the City of San Clemente.
5 – Conditioned for implementation with development of Las Flores.
6 – Caltrans improvement.
7 – County of Orange improvement project.
8 – Implemented through the City of San Juan Capistrano Reimbursement Agreement and Nexus Fee Program.
9 – Transportation Corridor Agencies (TCA) Capital Improvement Plan (CIP).

Source: Austin-Foust Associates (2002).

Table 5.1-4
Non-Committed Master Plan of Arterial Highways/Regional Transportation Plan Facilities and Improvements

Facility	Jurisdiction	Improvement	Source
Alipaz St (north of Del Obispo St to Oso Rd)	San Juan Capistrano	Construct as four-lane secondary arterial	MPAH
Antonio Pkwy (south of Ladera Ranch to Ortega Hwy/SR-74)	County	Widen to six lanes	MPAH
Avd La Pata (south of Ortega Hwy/SR-74)	County	Widen to four lanes	MPAH
Avd La Pata (south of Ortega Hwy/SR-74 to San Clemente city limits)	County	Construct as a four-lane primary arterial	MPAH
Avd La Pata (San Clemente city limits to Avd Vista Hermosa)	San Clemente	Construct as a six-lane major arterial	MPAH
Cm De Los Mares (east of Cm Del Rio to Cm Las Ramblas)	San Clemente	Construct as four-lane secondary arterial	MPAH
Cm Del Rancho (I-5 to Avd Pico)	San Clemente	Construct as a four-lane primary arterial	MPAH
Cm Las Ramblas (current termination east to Avd La Pata)	San Juan Capistrano/ San Clemente	Construct as four-lane secondary arterial	MPAH
Cm Los Padres (east of St of the Golden Lantern to Cm Capistrano)	San Juan Capistrano	Construct as four-lane primary arterial	MPAH
Crown Valley Pkwy (Antonio Pkwy to Oso Pkwy)	County	Construct as six-lane major arterial east of Antonio Pkwy and as four-lane primary arterial west of Oso Pkwy	MPAH
I-5 (Oso Pkwy to Crown Valley Pkwy)	Caltrans	Add SB auxiliary lane	CT-RCR
I-5 (Pacific Coast Hwy/SR-1 to Avd Pico)	Caltrans	Add NB and SB HOV lanes	CT-RCR /RTP
I-5 (south of Basilone Rd)	Caltrans	Add NB and SB HOV lanes	Caltrans/ SANDAG
La Novia St (north of San Juan Creek Rd)	San Juan Capistrano	Widen to four lanes	MPAH

Table 5.1-4 (continued)
Non-Committed Master Plan of Arterial Highways/Regional Transportation Plan
Facilities and Improvements

Facility	Jurisdiction	Improvement	Source
Marguerite Pkwy (Avery Pkwy to Mission Viejo city limits)	Mission Viejo	Widen to four lanes	MPAH
Olympiad Rd (Alicia Pkwy to La Paz Rd)	Mission Viejo	Widen to four lanes	MPAH
Ortega Hwy/SR-74 (east of Antonio Pkwy/Avd La Pata to Orange County line)	County	Widen to four lanes	MPAH
Oso Rd (Alipaz St to Cm Capistrano)	San Juan Capistrano	Widen to four lanes	MPAH
Pacific Coast Hwy/SR-1 (north of Doheny Park Rd to Selva Rd)	Dana Point	Widen to six lanes	MPAH
Rancho Viejo Rd (north of Junipero Serra Rd to San Juan Capistrano city limits)	San Juan Capistrano	Widen to four lanes	MPAH
San Juan Creek Rd (Cm Capistrano to San Juan Capistrano city limits)	San Juan Capistrano	Widen to four lanes	MPAH
San Juan Creek Rd (San Juan Capistrano city limits to Avd La Pata)	San Juan Capistrano	Construct as four-lane secondary arterial	MPAH
Crown Valley Parkway interchange at Foothill Transportation Corridor-South[1]	County	Add future interchange.	MPAH

Source: Austin-Foust Associates (2002).

Abbreviations: MPAH – Master Plan of Arterial Highways
RTP – Regional Transportation Plan
CT-RCR – Caltrans Route Concept Report
SANDAG – San Diego Association of Governments
TCA – Transportation Corridor Agencies
HOV – high occupancy vehicle
NB – northbound
SB – southbound

[1] This interchange is not proposed as part of the FTC-S by the TCA and is considered to be part of the future build out of the MPAH. The potential future interchange of the FTC-S with Crown Valley Parkway is a possible interchange that could be incorporated into a corridor alternative. The potential extension of the FTC-S as a SOCTIIP alternative will not automatically trigger the future interchange, and the TCA is not including the interchange as part of the corridor project that they propose to build. The SOCTIIP can exist indefinitely without the Crown Valley Parkway interchange. The SOCTIIP and the future interchange are not interdependent parts of a larger action and do not depend on a larger action for their justification. The potential Crown Valley interchange is not a connected action as defined by the CEQ NEPA Regulations (40 C.F.R. Section 1508.25(a)(1) and therefore, is not a federal action and does not require any federal funding or approval. Therefore, it is not included in the Alternatives evaluated in the EIS/SEIR but is included as a possible cumulative project.

Table 5.1-5
Summary of Caltrans Improvements

Caltrans Interstate 5 Improvements		
Description of Project	**Status of Project**	**Environmental Compliance**
I-5/SR 74 Interchange Project This project in the PSR stage. Several alternatives have been proposed by the consultants (Parson) that will improve operations in the 5/74 interchange area. The ramps will be reconfigured concurrently with the realignment of Del Obispo. A roundabout at the intersection of Del Obispo and the 74 has also been proposed. The SOCTIIP proposal incorporates one of the original alternatives that was proposed by Parsons (cloverleaf ramp layout). This will probably not be selected. The are also proposing to add an off ramp at Camino Capistrano at Stonehill to divert some of the southbound traffic to Dana Point away from the 5/74 area. The proposed SOCTIIP project will realign I-5 at this location.	PSR in progress Environmental document will be prepared by the City of San Juan Capistrano which is the lead agency.	To be determined.
Avenida Pico (0E740K) • Widening SB off-ramp to 2 lanes and aux. lane. ($2 million) • Widen Pico and n/b off ramp.	PSR completed. Anticipated environmental document would be a CE/CE.	To be prepared.
I-5 at La Paz Road (EA 0A070K) • Major construction at the interchange • Alternatives study involves widening La Paz, reconstructing bridge and realigning ramps.	PSR in progress. Environmental document is not yet determined.	To be determined.
SB I-5 El Toro Road (EA 09800K) • Propose new 3 lanes off-ramp with retaining wall.	PSR in progress. Anticipated environmental document would be an IS/EA leading to a ND/FONSI.	To be prepared.
I-5 at El Toro Road (EA 09800K) • Two new hook ramps to the Laguna Hills Mall • New Intersection	PSR in progress. Anticipated environmental document would be an IS/EA leading to a ND/FONSI.	To be prepared.
I-5 San Mateo Creek Bridge • The bridge piers will be stabilized with cast in shell piles around the footings of piers 1-4. Permanent sheet piling will be placed around pier 5. Abatements have suffered moderate to severe erosion. They'll be cleared of vegetation compacted and have RSP with filter fabric placed on the surface.	Environmental document was completed.	SE/CE was completed.

Table 5.1-5 (continued)
Summary of Caltrans Improvements

Caltrans Interstate 5 Improvements		
Description of Project	**Status of Project**	**Environmental Compliance**
The project did not incorporate the proposed on/off ramps on I-5 at Avenida De La Carlota, north of Los Alisos Blvd. Furthermore; there are operational concerns on the proposed reconfigured El Toro Road on/off ramps and their connectivity with Bridger Road and Avenida De La Carlota.	PSR in progress. Anticipated environmental document would be an IS/EA leading to a ND/FONSI.	To be prepared.
In San Juan Capistrano • Widening Route 5 S/B off ramp at Camino Capistrano and widen a segment of Camino Capistrano south of the I-5.	PSR completed. Anticipated environmental document would be an IS/EA probably leading to an ND/FONSI.	To be prepared.
In Laguna Hills at Alicia (0E620K) • Add auxiliary lane from Alicia SB off ramp to SB on ramp.	PSR completed. Anticipated environmental document would be an IS/EA probably leading to an ND/FONSI.	To be prepared.
In Laguna Hills SB on & off ramps; El Toro Road RM 18.7; Avenue de La Carlota, Los Alisos • Relocate SB I-5 on & off ramps; realign Frontage Road; Install signal.	PSR completed. Anticipated environmental document would be an IS/EA probably leading to an ND/FONSI.	To be prepared.
In San Juan Capistrano at Camino Capistrano on ramp. Realign ramp; extend ramp meter limits.	PSR completed. Anticipated environmental document would be an IS/EA probably leading to an ND/FONSI.	To be prepared.
At Avenida Vista Hermosa (Reeves Ranch Overcrossing.) • Construct interchange.	This project has been completed by the City of San Clemente.	CE was completed by City of San Clemente.
In Orange County in Laguna Niguel, Laguna Hills, Mission Viejo and Lake Forest • Construct HOV lanes.	Environmental document is not yet determined.	To be determined.
On Route 5 from El Toro Road to Alton Parkway and on Route 405 form Route 5 to Irvine Center Drive (ORA 405 1.2/1.0) in Lake Forest • Widen and reconstruct Freeway.	Completed.	ND was approved on April 10, 1990 and FONSI on 5/29/90.

Table 5.1-5 (continued)
Summary of Caltrans Improvements

Caltrans Interstate 5 Improvements		
Description of Project	**Status of Project**	**Environmental Compliance**
Other Caltrans Projects		
In San Juan Capistrano from I-5/East City limit (Ortega Highway). • Construct new interchange.	PSR in progress Environmental document will be prepared by the City of San Juan Capistrano.	To be determined.
On Route 74 from I-5 to Antonio Parkway (Ortega Highway). • Widen roadway	PSR completed. Anticipated environmental document is an IS/EA leading to a ND/FONSI (anticipated date Dec 2005).	To be prepared.
From Riverside County line to 4.8 km westerly (Ortega Highway). Project Study Report approved for alternatives (043200). • Widen roadway	PSR completed. Anticipated environmental document is an IS/EA July (anticipated date 2004).	To be prepared.
On Route 74 near Route 5/74 separation (Ortega Highway). • Extend right turn lanes.	In PSR stage. Environmental document not determined.	To be determined.
Near San Juan Capistrano from 0.5 mile east of Ave Siega to 0.1 mile east of La Pata (Ortega Highway) (031813). • Replace bridge/realign approaches.	Completed.	CE
Future Caltrans Improvements		
I-5 (Pacific Coast Highway SR1 to Avenida Pico • North and southbound auxiliary HOV lanes.	Environmental document not determined.	To be determined.
I-5 (South of Basilone Road) • North and southbound auxiliary HOV lanes.	Environmental document not determined.	To be determined.

Source: Caltrans District 12 list of projects provided by Caltrans on October 15, 2001, and status of environmental documents provided September 16, 2002, and updated 2003.

PSR	Project Study Report	ND	Negative Declaration
FONSI	Finding of no Significant Impact	IS	Initial Study
EA	Environmental Assessment	SE	Statutory Exemption
CE/CE	Categorical Exemption/Categorical Exclusion		

1. In addition to the projects described in this table, a number of other minor projects have been or will be implemented by Caltrans in the study area. These other projects are relatively minor and generally are proposed within or immediately adjacent to existing state right-of-way. In addition, these projects are predominately in developed areas, do not substantially change the capacity of the transportation system and are not anticipated to result in adverse environmental impacts in the study area. Therefore, the following projects are not listed in detail in this table: improvements to the Avenida Mendocino on ramp to northbound I-5, realignment of Stonehill at the on ramp to northbound I-5; construction of a

Table 5.1-5 (continued)
Summary of Caltrans Improvements

separation barrier between southbound I-5 and Camino Capistrano; improvements to the southbound I-5 off ramp at Camino Capistrano; improvements to the I-5/SR 74 interchange; improvements to the southbound I-5 off ramp at Oso Parkway; improvements to the southbound I-5 off ramp at Avenida Pico; improvements to the I-5 northbound off ramp and southbound on ramp at Avenida Pico; widening of the southbound I-5 off ramp and bridge overpass at Camino de Estrella; retrofit of truck lanes on I-5 in San Juan Capistrano; scour mitigation at I-5 at the San Juan Creek bridge; reconstruction of the Avery Road undercrossing at I-5; retrofit truck lanes on I-5 in Irvine; widen the I-5 northbound on ramp and southbound off ramp at Oso Parkway and add auxiliary lanes from La Paz Parkway to Oso Parkway; reconstruct the La Paz Road undercrossing at I-5; widen the northbound I-5 on ramp at Avenida Mendocino; construct outer barrier/separation barrier and retaining wall in San Juan Capistrano; construct soundwalls at Camino de Estrella; construct northbound auxiliary lane on I-5 from Crown Valley Parkway to Oso Parkway; restripe one HOV lane to mixed use on I-5 in Mission Viejo, Lake Forest and Laguna Hills; widen the northbound on ramp on I-5 at Avenida Palizada; widen the Camino de Estrella northbound on ramp on I-5 and add ramp metering; install traffic signals and improve curb and gutter on the Junipero Serra northbound and southbound ramps on I-5; widen the La Paz Road off ramp on southbound I-5; convert the eastbound El Toro Road and Tustin Road and northbound Jeffery Road on ramps on I-5 to ramp metering; relocate the HOV lanes and realign the mixed flow lanes on I-5 from Alicia Parkway to El Toro Road; and add an auxiliary lane on southbound I-5 from Oso Parkway to Crown Valley Parkway.

Table 5.3-1
Summary of Impacts for Cumulative Projects Related to Land Use

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community	
Conversion of 203 ha (500 ac) into suburban/urban uses.	77 percent to be retained as open space and recreational. Landscaping throughout to soften visual impacts.
Talega Valley Specific Plan (Champion Hills)	
Inconsistencies with the General Plan and local Park Requirements.	Preparation of a Comprehensive Local Park Implementation Plan. Intrusion of land uses and grading to be minimized to achieve consistency.
Development impacts.	Participation in the City's Annual Monitoring Report.
Land uses within SOCTIIP alternative alignments.	Sufficient right-of-way preserved along alignments.
Proposed densities require preservation of Lot B in open space.	Lot B shall be dedicated to the County for open space.
Talega Development Feature Plan Amendment	
No information provided.	--
Chiquita Canyon High School (Now Referred To As Tesoro High School)	
No significant impacts to land use.	No mitigation required.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Landfill activity occurrence within the 61 m (200-ft) ridgeline protection buffer.	Structures not permitted on or within the 61 m (200-ft) protection zone designated in the San Juan Capistrano General Plan.
Recreation facilities could be visible on key ridgelines in the Cities of San Juan Capistrano and San Clemente.	No permanent facilities other than at-grade trails are to be located on key ridgelines in these Cities.
Other Projects Listed In The Landfill GDP EIR	
No information provided.	--
Whispering Hills Planned Community	
Proposed Project/356 du Encroach upon General Plan-designated ridgelines or within the required 61 m (200-ft) buffer zone.	Ridgeline Exception.
High School/193 du Alternative GPA/Zone Change	Mitigate impacts resulting from high school, as described in Sections of the EIR.
Forster Ranch Specific Plan Amendment	
Significant decrease in diversity of uses and potential inconsistency with City directives for the Town Center Area.	Area plans in the Town Center Area subject to finding by City that land uses are consistent.
Open space requirements compromised.	3.5 ha (8.5 ac) to be provided for open space to meet General Plan.
Marblehead Coastal	
No significant impacts to land use.	No mitigation required.
Pacific Point/San Juan Meadows	
Deletion of Valle Road and Avenida Calita as commuter roads.	Amendment to the Circulation Element deleting both commuter roads.
No provision for affordable housing.	A Housing Opportunities Program to be prepared in accordance with the City's General Plan guidelines.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
Conversion of almost 50 percent of the project site from undeveloped and low intensity uses to high intensity urban uses.	Preservation of 648 ha (1,600 ac) for open space.
Removal of approximately 3.5 ha (8 ac) of prime farmland.	No mitigation measures available to reduce impacts to prime farmland.

Table 5.3-1 (continued)
Summary of Impacts for Cumulative Projects Related to Land Use

Summary of Impacts	Summary of Mitigation
Arroyo Trabuco Golf Course	
No significant impacts to land use.	No mitigation required.
Dana Point Headlands	
General Plan Amendment, Zoning Code and Zoning Map Amendments, creation of a Planned Development District, and Amendment of the Dana Point Local Coastal Program.	The Headlands Development and Conservation Plan, Project Design Features, applies design features to reduce land use impacts. No mitigation required.
Saddleback Meadows	
No significant impacts to land use.	No mitigation required.
Orange County Great Park (Formerly MCAS El Toro)	
No significant impacts to land use.	No mitigation required.
Rancho Mission Viejo	
Potentially significant impact. Impacts regarding land use compatibility and loss of agricultural uses will be analyzed in the Draft Environmental Impact Report (EIR) #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
A cumulative loss of open space within the Foothill Trabuco Specific Plan area and Orange County will occur, although the project will maintain 70% of the site within permanent open space.	No mitigation necessary.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Potential incompatibility with existing adjacent land uses.	Review of site for compatibility issues.

Land Use Technical Report (P&D Consultants, 2003).

Table 5.3-2
Summary of Impacts for Cumulative Projects Related to Socioeconomics

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Talega Valley Specific Plan (Champion Hills)	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Chiquita Canyon High School (Now Referred to as Tesoro High School)	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Other Projects Listed In The Landfill GDP EIR	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Whispering Hills Planned Community	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Forster Ranch Specific Plan Amendment	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Marblehead Coastal	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Pacific Point/San Juan Meadows	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Antonio Parkway Roadway Alignment And Land Use Plan (Ladera PC)	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Arroyo Trabuco Gold Course	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Dana Point Headlands	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--

Table 5.3-2 (continued)
Summary of Impacts for Cumulative Projects Related to Socioeconomics

Summary of Impacts	Summary of Mitigation
Saddleback Meadows	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Orange County Great Park (Formerly Mcas El Toro)	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Rancho Mission Viejo	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Saddle Creek/Saddle Crest	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
No analysis was provided; therefore, it is assumed this project will not result in adverse impacts related to socioeconomics and environmental justice.	--

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Socioeconomics and Growth Inducing Impacts Technical Report (P&D Consultants, 2003).

Table 5.3-3
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The Part of the Talega Development in Unincorporated Orange County)	
Increase in storm runoff resulting in erosion, on site and downstream flooding, and landslides.	Pollutant load for wash-off to the drainage courses reduced to practicable extent through street cleaning and homeowner's association program to eliminate household pollutant sources.
	Water quality monitoring program for golf course runoff.
	Drainage plans for tracts.
	Certification that downstream improvements to the Segunda Deshecha channel are adequate.
	Runoff management plan for tracts.
Increased on site irrigation related to golf course could result in on site and downstream erosion and siltation.	Landscape Management Plan for review and approval by the County.
	Irrigation System Plan prepared and established.
Talega Valley Specific Plan (Champion Hills; (The Part of the Talega Development in the City of San Clemente)	
Runoff will increase by 35 to 50 percent as result of increased impervious surfaces.	Improvements to Segunda Deshecha channel in accordance with final engineering drawing.
	Storm drains coincident with development of each subdivision map area.
	Certification that downstream improvements to the Segunda Deshecha channel are adequate.
Potential downstream impacts on hydrology resulting from landscape and irrigation of golf courses and other urban uses.	Landscape Management Plan to be submitted for review and approval.
	Regular streetsweeps on all private roads on site to be provided.
	Preservation of the channel in open space to be achieved.
	Surface runoff from development areas to be diverted away from watershed and directed toward Segunda Deshecha.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Increased runoff and erosion due to soil and geologic conditions.	Design for reconstruction of existing culvert under Oso Parkway.
	Slope landscaping specifically designed to suit soil and geological conditions present in the slopes.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Increase in stormwater runoff and localized flooding.	Assumptions, methods and calculations used in sizing drainage and sediment control facilities to be provided.
	Surface drainage plans for final fill bottom excavation plans to be prepared.
	Detention, diversion and drainage facilities designed and constructed to accommodate anticipated volume of precipitation and peak flows.
Potential erosion from circulation and road uses.	Implementation of erosion control measures conforming to County Standards.
	Silt loading to surface waters from the construction activities will be periodically tested and controlled.

Table 5.3-3 (continued)
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
Surface water quality degradation possible from landfilling. Potential water quality impacts could occur as a result of circulation and road improvements.	Compliance with National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) and its NPDES Monitoring and Reporting Plan.
	Implement the existing Surface Water Runoff Monitoring Program.
Potential erosion could increase silt load in surface waters.	Silt loading to surface waters from construction activities to be periodically tested and controlled.
Other Projects Listed in the Landfill GDP EIR	
Impacts on water quality are not anticipated.	Implementing best management practices and working with the local Regional Water Quality Control Board and County Department of Health Standards to meet applicable standards.
Whispering Hills Planned Community	
Proposed Project/356 du: Over 20% increase in stormwater runoff.	Adhere to Leighton 2001 drainage system recommendations.
Peak flow runoff from the West Canyon may exceed capacity of the existing 54-inch RCP.	Conduct hydrological analysis. Incorporate recommendations of the hydrological analysis. Provide a detention basin, if necessary.
Runoff from the East Canyon may exceed the capacity of the 74-inch RCP.	Conduct hydrological analysis. Incorporate recommendations of the hydrological analysis. . Provide a detention basin, if necessary.
Alteration of the course of intermittent on-site streams, resulting in an increase in the amount of runoff generated.	Adhere to Leighton 2001 design and construction of storm drains and sub-surface drainage.
Creation of contaminated runoff that could impact water quality.	Submit a Water Quality Management Plan.
	Obtain a general NPDES Permit. If the project site becomes part of a Special Area Management Plan, then developer will comply with requirements of SAMP.
	Landscape plan utilizing drought tolerant plants with low fertilizer requirements. Minimize irrigation runoff.
	Detention basins to function as water quality basins and flow control basins.
High School/193 du Alternative: All impacts same as Proposed Project/356 du except one additional impact: Modification of an existing blueline stream.	Same as Proposed/356 du mitigation measures. "Blueline" stream analysis and recommendation incorporated into final design.
Forster Ranch Specific Plan Amendment	
No information provided.	--
Marblehead Coastal	
Pollutants could accumulate in the sediments in the detention basin.	All recommendations in the Preliminary Stormwater Management Plan should serve as the definitive guide to mitigation measures for the proposed project.
	Maintenance program to remove sediment to be included. Silt curtains or other forms of barriers to be used to confine turbid water to the immediate area of the maintenance activity.
	Additional construction level engineering studies to be performed.

Table 5.3-3 (continued)
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
	Prior to final map approval a hydrology and hydraulic study to be prepared and submitted for review and approval.
Pacific Point/San Juan Meadows	
Short term peak flow increases in storm runoff.	All necessary drainage facilities to be constructed.
	All local on site facilities to be designed to accommodate a 25 year storm.
	On site runoff directed through the freeway culverts in such a manner as not to exceed a 100 year storm.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
Increase in runoff.	Drainage studies to be submitted to and approved prior to final tract/parcel map or issuance of grading permits.
	Design, construct or financially secure surface drainage and storm drain facilities.
Increase in erosion on site.	Compliance with requirements of NPDES stormwater permits, the Orange County Drainage Area Management Plan and the specific requirements of the County's stormwater permits for construction and operation.
Potential for surface water contaminants.	Urban runoff management plan to be designed.
	SWPPP to be prepared and approved prior to issuance of grading permit.
Arroyo Trabuco Golf Course	
Potential to significantly impact water quality.	Prior to issuance of grading permits, design provisions for surface drainage, design of all necessary storm drain facilities and dedication of the associated easements to the County.
	Prior to issuance of building permits, participation in Master Plan of Drainage.
	Submittal and approval of a Water Quality Management Plan prior to issuance of grading or building permits.
	Obtain coverage under the NPDES statewide General Construction Activity Stormwater Permit prior to issuance of grading permits.
Dana Point Headlands	
Energy dissipation structures and three outlets to Strand Beach, will confine drainage on site to improved structures reducing existing on-site erosion in this area	Implementation of Project Design Features 7-3 and 7-4 will reduce effects on beach erosion. No mitigation required.
The project site is not within the 100-year floodplain, however, analysis of the 100-strorm runoff will ensure that all pad elevations are a minimum of one foot above the 100-year flood elevation.	Implementation of Project Design Features reduce impacts of flooding on the project site. No mitigation required.
Potential for inundation of structures by tsunamis, although the Orange County coast is generally protected by coastal configuration and offshore islands.	All proposed habitable structures shall be designed and constructed at elevations higher than about 20 to 25 feet above mean sea level.
No mudflows are present within the project site; however, under uncontrolled drainage conditions, the sandy surficial soils are susceptible to rapid erosion from surface flow of water.	Install appropriate subdrains behind fill slopes and retaining walls as determined in the final geotechnical report.
Because the project site receives subsurface drainage from upgradient properties, it is subject to the potential for uncontrolled levels and flow of groundwater.	Install appropriate subdrains behind fill slopes and retaining walls as determined in the final geotechnical report

Table 5.3-3 (continued)
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
During construction activities, disturbance of soil will occur, pollutants could be introduced to runoff from the site during these activities which could impact the quality of the marine receiving waters.	Implementation of Project Conditions will reduce construction erosion impacts. No mitigation required.
Operation of the project will include structural and non-structural BMPs so that pollutants and runoff will not contribute to degradation of receiving waters.	Implementation of Project Design Features and Project Conditions (including standard Best Management Practices) reduce potential impacts involving water quality in the runoff and the marine receiving waters. No mitigation required.
The project may affect shallow groundwater, which is most susceptible to contamination from the high pollutant loads in dry-weather runoff and the "first flush' of a storm event.	Implementation of Project Design Features reduce impacts to groundwater quality. No mitigation required.
Saddleback Meadows	
Implementation of the project would result in the introduction of impervious surfaces and would result in a decrease of in the area available for stormwater percolation. Drainage impacts could occur.	Project design includes the incorporation of drainage and flood control. Requirement to prepare a master drainage plan in to Orange County Flood Control District Standards in consultation with the Army Corps of Engineers. Impact is less than significant after mitigation.
Short-term water quality impacts from erosion and siltation.	Construction siltation abatement and control measures included in the required SWPPP and WQMP
Long term water quality impacts from urban uses.	Special design features were incorporated into project to address site specific and regional water quality impacts. These include standard best management practices and site specific drainage and filtration techniques and design. Compliance with provisions of NPDES stormwater permit included in mitigation measures.
Orange County Great Park (Formerly MCAS El Toro)	
Wind and water-related soil erosion.	Prior to issuance of a grading permit, the applicant shall provide evidence that the development of the project area shall comply with the City of Irvine, specifically the NPDES discharge permitting requirements. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared prior to approval grading permits.
Substantial increase in the rate or amount of surface runoff due to new development may occur resulting in on- or off-site flooding.	Prior to issuance of a grading permits, project applicants must submit an approved Water Quality Management Plan (WQMP).
Potential to degrade surface water quality.	In accordance with City standards, Notices of Intent (NOI's) shall be submitted to the State Water Resources Control Board prior to issuance of grading permits.
Proposed development in PAs 51 and 30 could be subject to potential flooding associated with a 100-year storm frequency.	Prior to issuance of grading permits, evidence shall be provided that demonstrates that all stormwater runoff and dewatering discharges from the project area shall be managed to the maximum extent practicable or treated as appropriate to comply with water quality requirements identified in the Santa Ana Regional Water Quality Control Plan.
	Prior to approval of the first tentative tract map or parcel map, detailed hydrology studies shall be conducted.

Table 5.3-3 (continued)
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
	Prior to issuance of a building permit, developers with property located in the newly delineated 100-year floodplain shall be required to construct such improvements as necessary to remove the property from the 100-year floodplain. The developer also shall prepare a Letter of Map Revision (LOMR) request to have the FIRMs revised t remove the development areas from the 100-year floodplain upon completion of the approved flood control facilities.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in the Draft Environmental Impact Report (EIR) #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
Hydrology/Draingage Surface Runoff Approximately 99 acres of the drainage areas will be developed, the 100-year peak discharge will increase from 964 to 1,065 cfs. approximately 33 acres of the drainage areas will be developed, the 100-year peak discharge will increase from 679 to 699 cfs. for Saddle Creek and Saddle Crest, respectively. Sediment and bulked flow will be allowed to pass through the drainage system and	With incorporation of Project Design Features, impacts are less than significant. No mitigation measures necessary.
Flooding The increase in stormwater runoff will total approximately 7.8 percent for both projects.	
Sediment Yield An estimated 632 and 206 ton reduction in sediment yield is expected for Saddle Creek and Saddle Crest, respectively, due to increased pavement and reduced pervious surfaces.	
Riverbed Scour The maximum scour depth of Aliso Creek will increase approximately 2 feet at Cook's Corner in a 100-year flood event.	
Cumulative: The project will increase flows ultimately discharging to the Pacific Ocean and minimally increase peak storm water runoff within Aliso Creek watershed. Implementation of proposed Aliso Creek streambed stabilization device will beneficially impact existing scour problems within the streambed.	
Water Quality Construction-Related Impacts Erosion and sedimentation will potentially impact surface water quality within the watershed. There is a potential for accidental spills. Post-Construction Impacts Long-term water quality impacts due to the addition of urban pollutants.	With incorporation of Project Design Features, impacts are less than significant. No mitigation measures necessary.

Table 5.3-3 (continued)
Summary of Impacts for Cumulative Projects Related to Water Resources

Summary of Impacts	Summary of Mitigation
The 85th percentile 24-hour rainfall event runoff volume will increase to 1.81 ac.-ft. from the existing 0.56 ac.-ft. and the 85th percentile, 24-hour rainfall even runoff volume will increase to 0.57 ac.-ft. from the existing 0.17 ac.-ft. for Saddle Creek and Saddle Crest respectively.	
Cumulative: Land uses and zoning within the 1,477-acre Aliso Creek watershed include 648 acres scheduled to remain as agricultural/natural, 824 acres of residential uses, and 5 acres of school uses. Cumulative development will potentially impact both surface water and groundwater quality.	
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Project designed to stay out of 25-year flow and protect to 100-year flow. Potential urban runoff impacts.	Site specific drainage studies. Standard water quality mitigation including plans, swales, erosion control and flows dissipaters.

Source: P&D Consultants (2003)

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Table 5.3-4
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
San Diego Fairy Shrimp	No quantitative estimates of historic population exist. Habitat: There was historically extensive vernal pool habitat in coastal areas of Orange County. In San Diego County: most of the vernal pools that historically covered 200 square miles were destroyed before 1990. (68 Fed. Reg. 19888, 19890 (April 22, 2003).)	No quantitative estimates of current population exist. Current habitat estimates: Less than 200 acres, including approx. 70 vernal pools in San Diego County and approx. 25 vernal pool complexes in San Diego, Orange, and Santa Barbara Counties, and Baja California. Orange County populations: Fairview Regional Park, 62 ac (25 ha); Newport Banning Ranch and Rancho Mission Viejo. (Draft South County NCCP/HCP Planning Guidelines 68 Fed. Reg. 19888, 19890 (April 22, 2003); 62 Fed. Reg. 4925, 4926, 4929 (Feb. 3, 1997); SR 125 South Final EIR/EIS, p. 3-34; City MSCP. p. 44.)	No direct or indirect impacts to known populations or habitat. Impacts on critical habitat, FEC-M, FEC-W, A7C-FEC-M/ Preferred Alternative and I-5 Alternatives: 0.05 mi. (0.08 km.)	No direct impacts noted from cumulative projects (Table 5.3-5).	Orange County: cumulative loss is nearly total. San Diego County: cumulative loss is estimated at 90 to 97 percent. (68 Fed. Reg. 19888, 19890 (April 22, 2003); 62 Fed. Reg. 4925, 4926, 4929 (Feb. 3, 1997); SR 125 South Final EIR/EIS, p. 3-34; City MSCP. p. 44.) Proposed action and future actions will not have adverse cumulative effects.

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
Riverside Fairy Shrimp	No quantitative estimates of historic population exist. Historic habitat: Formerly widespread, in vernal pools, pool-like ephemeral ponds, and human-modified depressions from coastal southern California south to northwestern Baja California, Mexico. (66 Fed. Reg. 29384 (May 30, 2001).)	Current population: Orange County: Three documented populations: Saddleback Meadows/Foothill-Trabuco area, Ranch Mission Viejo and El Toro. Other documented populations exist in Ventura, western Riverside and San Diego Counties. (Draft South County NCCP/HCP Planning Guidelines 58 Fed. Reg. 41384, 41385, 41388 (Aug. 3, 1993).) Current habitat: extremely restricted distribution within a limited number of vernal pools. (County MSCP, p. 43; City MSCP, p. 45.)	No direct or indirect impacts to known populations or habitat. Impacts on critical habitat, CC Alternative: 206.64 ac (83.63 ha).	The Saddleback Meadows project will have impacts on a 0.152 ha (0.4 ac) ephemeral pond.	San Diego County: habitat has declined by 97 percent. Orange County: habitat has declined by 90 to 98 percent. (66 Fed. Reg. 29384, 29385 (May 30, 2001); 58 Fed. Reg. 41384, 41387 (Aug. 3, 1993).) Proposed action and future actions will not have significant adverse cumulative effects.

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
Tidewater Goby	No quantitative estimates of historic population exist. Historic habitat: at least 87 of California's coastal lagoons, from near the Oregon border to Agua Hedionda Lagoon (northern San Diego County). (59 Fed. Reg. 5494, 5495 (Feb. 4, 1994); 65 Fed. Reg. 69693, 69694 (Nov. 20, 2000).)	Currently, tidewater gobies occupy eight locations in Camp Pendleton. Two of these populations range from several thousand to 70,000 gobies. (59 Fed. Reg. 5494, 5495 (Feb. 4, 1994); 65 Fed. Reg. 69693, 69703, 69705 (Nov. 20, 2000).)	Alternatives FEC-M, FEC-W, and A7-C (and Preferred): Potential impacts likely but not quantified if occupied drainages are crossed. Mitigation measures would be applied. Impacts on critical habitat, FEC-M, FEC-W and I-5 Alternatives: 0.04 mi (0.06 km.)	A random event or combination of unfavorable conditions could extirpate existing populations. The protection of designated critical habitat will reduce the likelihood of cumulative impacts. No direct effects from cumulative projects (Table 5.3-5).	Since 1900, the tidewater goby has disappeared from approximately 50 percent of formerly occupied lagoons. (59 Fed. Reg. 5494, 5495 (Feb. 4, 1994); 65 Fed. Reg. 69693, 69703, 69705 (Nov. 20, 2000).) Because of mitigation and absence of effects from cumulative projects, the proposed action and future actions will not have adverse cumulative effects
Southern Steelhead Trout	No quantitative estimates of historic population exist. Habitat: Southern steelhead (those occurring south of San Francisco Bay) were formerly found in coastal drainages as far south as the Santo Domingo River in northern Baja	Reported in San Mateo Creek in Camp Pendleton (northern San Diego County). Possibly other remnant populations present in isolated headwaters. (67 Fed. Reg. 21587 (May 1, 2002); Steelhead Restoration and Management Plan	FEC-M, FEC-W and A7C-FEC-M-/Preferred Alternatives: Potential impacts likely but not quantified if occupied drainages are crossed. Mitigation measures would be applied.	No direct effects from cumulative projects (Table 5.3-5).	Drastic decline in numbers in nearly all southern streams. 92 to 100 percent of populations estimated to be extinct in Orange and San Diego Counties. (DFG, 52.) Because of mitigation and absence of effects from cumulative

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
	California. (Steelhead Restoration and Management Plan for California, CDFG, 1996, 51.)	for California CDFG, 51.)			projects, the proposed action and future actions will not have adverse cumulative effects
Arroyo Toad	No quantitative estimates of historic population exist. Habitat: Historically found along the length of drainages in southern California from San Luis Obispo to San Diego County. (59 Fed. Reg. 64859 (Dec. 16, 1994).)	Population: Populations persist in San Diego County; scattered populations in Orange County, including San Juan, San Mateo and San Onofre watersheds. Habitat: Headwaters support small isolated populations.	FEC-M, FEC-W and A7C-FEC-M (Initial)/ Preferred Alternatives: One individual affected. FEC-M, FEC-W, and A7C-FEC-M (Ultimate) Alternatives: Two individuals affected. I-5 Alternative: One individual affected. Impacts on critical habitat in San Juan Creek: FEC-M, FEC-W and A7C-FEC-M/ Preferred Alternatives: 0.28 mi. CC Alternative: 0.25 mi. Impacts on critical habitat in San Mateo Creek: FEC-W and FEC-M Alternatives: 0.04 mi. (0.06 km.). Mitigation would apply.	No direct effects from cumulative projects (Table 5.3-5).	Extirpated from large areas of its range. Because indirect project impacts cannot be mitigated, cumulative impacts are adverse.

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
Southwestern Willow Flycatcher	Population: Data are incomplete; no wide scale, few local studies undertaken. Habitat: Historic range included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado and extreme northwestern Mexico. In California, it included all lowland riparian areas in southern third of state. Riparian habitats already significantly altered by 1900. (60 Fed. Reg. 10693, 10699, 10709 (Feb. 27, 1995); 62 Fed. Reg. 39129 (July 22, 1997); Southwestern Willow Flycatcher Recovery Plan.)	Approximately 121 southwestern willow flycatcher breeding territories are known to exist in California with single territories recently located in the Talega area and Cañada Gobernodora. Approximately 549 territories located during 1993 to 1996 surveys conducted throughout the species know range. Population trend information since the mid-1980s shows decline in most areas. Overall, current range is similar to the historical range, but the quantity of suitable habitat within that range is much reduced from historical levels. (Draft South County NCCP/HCP Planning Guidelines; 60 Fed. Reg. 10693, 10697,	No direct or indirect impacts. No impacts on critical habitat.	No direct effects from cumulative projects (Table 5.3-5). SDMSCP protects 75 percent of remaining nesting habitat in San Diego county; Orange County NCCP Program includes 15,188 ha (37,300 ac) of habitat, requires nesting surveys.	Although data are incomplete, widespread habitat and population declines occur throughout the range. Proposed action and future actions will not have adverse cumulative effects.

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
		10699, 10709 (Feb. 27, 1995); 62 Fed. Reg. 39129, 39130 (July 22, 1997).; Southwestern Willow Flycatcher Recovery Plan.)			
California Gnatcatcher	Population: Considered "locally common" in mid-1940s. Habitat: In 1945, there were 38,475 (95,000 ac) of coastal sagebrush in Orange County and 154,305 ha (381,000 ac) in San Diego County. (58 Fed.Reg. 16742, 16746, 16751, 16752 (March 30, 1993).	Population: NCCP field surveys indicate that about 1,000 pairs of gnatcatchers may occur in Orange County. (Biological Opinion, NCCP, p. 22.) Habitat: In 1990, there were 19,440 ha (48,000 ac) of coastal sagebrush in Orange County and 54,675 to 61,560 ha (135,000 to 152,000 ac) in San Diego County. (68 Fed.Reg. 20228, 20232 (April 24, 2003); 58 Fed.Reg. 16742, 16746, 16749, 16751, 16752 (March 30, 1993).)	Direct impacts from all alternatives; see Table 4.12-3. Impacts on critical habitat from all alternatives except I-5; see Table 4.12-5. Most significant from the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives.	Future projects will have impacts, including Whispering Hills, Coastal Ranch, Pacific Point/San Juan Meadows and Marblehead Coastal (Table 5.3-5).	It is estimated that, between 1945 and 1990, 50 percent of CSS in Orange County and 60 to 65 percent in San Diego County was lost. (68 Fed.Reg. 20228, 20232 (April 24, 2003); 58 Fed.Reg. 16742, 16746, 16749, 16751, 16752 (March 30, 1993).) Because of impacts from the project and from future projects, cumulative impacts will be adverse.

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
Least Bell's Vireo	No quantitative estimates of historic population exist. Habitat: The historical breeding range extended from Baja California to interior northern California. (SR 125 South Final EIR/EIS, p. 3-36.)	California population estimated at 2,443 territories in 2001. The species has been observed in low, though increasing, numbers in Orange County, ranging from no observations in 1988 and 1989 to a high of at least 111 territories in 2002. Territorial LBVs were observed at 16 locations in the study area during 1995 surveys. (Draft South County NCCP/HCP Planning Guidelines; Biological Opinion, NCCP, p. 25; unpublished report, (Willick 2001).)	Potential direct impacts on two use areas, AIO Alternative; direct impacts on one use area, CC, CC-ALPV and A7C-ALPV Alternatives. Mitigation would apply. No impacts on critical habitat.	Future projects will have impacts, including Prima Deshecha Sanitary Landfill, Whispering Hills, and Arroyo Trabuco Golf Course (Table 5.3-5).	It has been estimated that the least Bell's vireo has been extirpated from over 95 percent of its former range. The status of the least Bell's vireo in 1999 was "stable to increasing." (CDFG.) Because of impacts from the project and from future projects, cumulative impacts will be adverse.
Pacific Pocket Mouse	No quantitative estimates of historic population exist. Rapid depletion of population starting in the 1940s, as a result of coastal development and resultant habitat destruction and	Population: Known to occur only on privately-owned land near Dana Point and at two locations on Camp Pendleton in San Diego County. 1995 and 1996 trapping efforts caught	No direct impacts. Indirect impacts from the FEC-M, FEC-W and A7C-FEC-M/Preferred Alternatives.	No direct effects from cumulative projects (Table 5.3-5). The Orange County population is located in a recovery area under the recovery plan.	Habitat and potential range apparently have been significantly reduced in the recent past. (59 Fed. Reg. 49752, 49760-49761 (Sep. 29,

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
	fragmentation. Habitat: Between 1894 and 1972, a minimum of eight general locales encompassing 29 sites from Los Angeles County to San Diego County. Found in the San Joaquin Hills in Orange County from 1968 through 1971. Believed extinct for 20 years, until a population found in 1993 in the Dana Point headlands. (59 Fed. Reg. 49752, 49753, 49759 (Sep. 29, 1994); City MSCP, p. 50; Biological Opinion, NCCP, p. 31.)	33 and 22 individuals, respectively, in the survey area. 2002 focused survey caught four individuals. At Dana Point Headlands, 25 to 36 mice detected in 1993. No confirmed sightings in San Diego County since 1932. Habitat: 4.17 ha (10.3 ac) in survey area. Current occupied habitat estimated at less than 405 ha (1,000 ac).			1994).) Proposed action and future actions will not have adverse cumulative effects.
Peregrine Falcon	Population and habitat: Peregrine falcons once ranged over most of California and across North America. Serious decline in numbers began in the 1940s, due to pesticide poisoning. In the mid 1970s, only 10	Population: No comprehensive survey had been conducted since 1992. It is estimated that there are more than 250 breeding pairs of peregrine falcons in California today. (UC Santa Cruz	Minimal indirect effects may occur from human proximity and habitat loss, lighting, and other edge effects. Peregrine falcons were located in the CC and CC-ALPV alternatives.	No known nesting sites are in the project area. Urbanization could affect foraging habitat. No direct effects from cumulative projects (Table 5.3-5).	Following significant declines, population has increased in response to legal protection, restrictions on organochlorine pesticides (e.g., DDT) in the United States and Canada, and captive-

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
	breeding pairs were known of in California. (CDFG)	Predatory Bird Research Group.) Habitat: The California breeding range, which has been expanding, now includes coastal southern California. The species is not known to nest in the survey area.			breeding and release. Proposed action and future actions will not have adverse cumulative effects.
Swainson's Hawk	Population and habitat: During the early 1900s, the Swainson's hawk nested in lowlands throughout most of California, maintaining populations as large as 17,000 pairs. www.dfg.ca.gov/te_species/index/classification/birdslist/swainhawk.hmt (CDFG)	Ten years ago, only 550 nesting pairs were found in California and numbers have been slowly declining. One pair nests in Los Angeles County. There is no evidence of breeding in the study area, but they forage during migration to and from South America wintering grounds. www.dfg.ca.gov/te_species/index/classification/birdslist/swainhawk.hmt (CDFG).	No direct impacts. Only minimal indirect effects may occur from human proximity and foraging habitat loss.	No direct effects from cumulative projects (Table 5.3-5).	Habitat destruction in nesting and foraging areas has combined with threats (including poisoning) on South American wintering grounds to significantly reduce numbers. Proposed action and future actions will not have adverse cumulative effects.
Thread-leaved Brodiaea	No quantitative estimates of historic population exist.	34 populations, with over 4,400 individuals, were identified in the	Direct and indirect impacts on individuals and populations from	Direct and indirect impacts from future projects; mitigation	Range has been diminished and fragmented. At least

Table 5.3-4 (continued)
Context of Cumulative Impacts for Biological Resources

Species	Historic Populations/ Habitat	Current Populations/ Habitat	Effect of Proposed Action	Effects from Future Actions	Overall Cumulative Effect from Past, Present, and Reasonably Forseeable Future Projects
	Habitat: The historical range extends from Los Angeles and San Bernardino Counties through eastern Orange and western Riverside Counties to Carlsbad in northwestern San Diego County. (63 Fed. Reg. 54975, 54977, 54978, 54982-54983 (Nov. 12, 1998).)	study area in 2001. There were an estimated 11,650 to 14,650 individual plants in Orange County in 2002 (Draft South County NCCP/HCP Planning Guidelines.)	the FEC-M, FEC-W, A7C-ALPV, and A7C-FEC-M/Preferred Alternatives (see Table 4.12-3).	measures will be applied.	nine populations have been extirpated, primarily in San Diego County. (63 Fed. Reg. 54975, 54977 (Nov. 12, 1998).) Because of indirect impacts from the project and from future projects, cumulative impacts will be adverse.

Table 5.3-5
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The Part of the Talega Development in Unincorporated Orange County)	
The proposed project will not result in any significant impacts on biological resources.	No mitigation required.
Talega Valley Specific Plan (Champion Hills; The Part Of The Talega Development In The City Of San Clemente)	
Potential impacts to sensitive biological resources.	Reserve area to be redesignated as a preserve area permanently limiting uses within it. Applicant to consult with CDFG for blue line areas pursuant to section 1601-6 of the State Fish and Game Code.
Indirect impacts to sensitive biological resources through introduction of exotic ornamental vegetation.	A list of potentially invasive plant species to be provided to the City and County.
Significant impacts to oak trees.	Prior to approval of grading or development permits applicant to submit oak tree preservation guidelines.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Adverse and significant impacts due to construction and operation of the proposed high school.	Lighting directed away from western hills, western periphery of the campus fenced, loudspeakers directed away from western hills, fire clearance at base of western hills done selectively to leave at least 30 percent of native shrub habitat, minimization of glass on western sides of buildings adjacent to eastern hill area, trash in closed containers, no 4-H livestock activities at school. Compliance with permitting requirements of the ACOE, USFWS, and CDFG. Use of landscape plan.
Loss of open field habitat and 16 ha (40 ac) of grassland.	Mitigation for either 17.9 or 12.31 ac will occur as a credit assignment in the Cañada Gobernadora wetlands mitigation bank. Participation in "Project Wild."
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Potential adverse effects on special status habitats and species of special concern. Potential vegetation removal and habitat disturbance.	Focused surveys to be conducted for thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley and paniculate tarplant. Wildlife habitat preservation monitoring.
Coastal sage scrub (CSS) removal.	Review and approval of an Interim Habitat Loss Mitigation Plan (IHLMP) by the USFWS in compliance with the NCCP and the Interim CSS Habitat Loss Process. Impacted CSS to be replaced at a minimum 2:1 ratio. Conceptual Coastal Sage Scrub Mitigation Plan to be prepared along with maintenance and monitoring program done by biologist.
Riparian resource removal.	Sycamore and willow trees four or more inches to be tagged and records kept of removal. Conceptual Riparian Mitigation Plan to be prepared. Impacted riparian areas to be replaced at a minimum 2:1 ratio. Obtain 404 Permit and 1601 Streambed Alteration Agreement. Reporting system for maintenance, revegetation and monitoring.
Potential indirect noise, air quality and lighting disturbance impacts on biological resources.	Incorporation of regulatory agency guidelines to reduce impacts.
Significant habitat areas impacted.	Operations phased during the nesting and breeding season for coastal California gnatcatcher and least Bell's vireo.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Effects on nesting sites for listed bird species and raptors, and dens for coyotes, bobcats and mountain lions.	Construction to be redirected around nesting sites for a distance of 152.4 meters (500 feet) for candidate and listed species of birds and a distance of 305 meters (1,000 feet) for raptors, during nesting and breeding seasons. For coyote, bobcat or mountain lion dens, construction shall be redirected temporarily around a den for a distance of 305 meters (1,000 feet).
Nine pairs of least Bell's vireo would be impacted.	Obtain authorization from USFWS to impact species. Mitigation/compensation must be approved through Section 4(d), Section 7 or Section 10(a) of the FESA. Implement measures developed through consultation with agencies and City at site during construction period.
Whispering Hills Planned Community	
Proposed Project/356 DU Impact 2.85 ha (7.03 ac) of riparian vegetation: 1.15 ha (2.84 ac) under ACOE jurisdiction and1.54 ha (3.81 ac) under CDFG jurisdiction.	Obtain necessary permits from ACOE and CDFG.
	Restoration of habitat with no less than 1:1 ratio; mitigation location determined through consultation with ACOE and CDFG.
	Removal of riparian habitat occupied by the least Bell's vireo will be prohibited during breeding and nesting season.
Construction would impact of 25.15 ha (62.14 ac) of coastal sage scrub habitat.	USFWS to authorize coastal sage scrub removal; a detailed coastal sage scrub mitigation plan will be developed for USFWS and City review and approval.
Impact 0.71 ha (1.76 ac) of native grassland.	Submit a native grassland mitigation plan to City for review and approval.
May impact non-listed plant species within Southern California Edison (SCE) easement and remedial grading areas.	Focused pre-construction surveys will be conducted on impacted areas not subject to previous studies for non-listed species within suitable habitat within the impact areas in the SCE easement and remedial grading areas. If a substantial population of these species is found to be present in the impact area, measures to avoid and/or minimize the impact will be developed in consultation with the City.
Thread-leaved brodiaea may be located in the project impact area.	For grading prior to May 1, 2002, a qualified biologist will identify habitat areas with greatest potential for thread-leaved brodiaea in SCE easement and remedial grading areas not previously surveyed. Topsoil in potential habitat areas will be stockpiled then spread within appropriate restoration areas. For grading after May 1, 2002, pre-construction surveys will be conducted during the spring if thread-leaved brodiaea is found in the impact area; measures to avoid and/or minimize impact will be developed in consultation with the City.
Coulter's saltbush will be impacted.	The population of Coulter's saltbush will be salvaged from the project site.
Three pairs and 13 individual coastal California gnatcatchers would be directly impacted. Two unpaired individuals adjacent to the impact area and one unpaired male would be indirectly impacted.	Obtain authorization from USFWS to impact species. Mitigation/compensation must be approved through Section 4(d), Section 7 or Section 10(a) of the FESA. Implement measures developed through consultation with agencies and City at site during construction period.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Impact habitat that has been occupied by one male least Bell's vireo.	Obtain authorization from USFWS to impact species. Mitigation/compensation must be approved through Section 4(d), Section 7 or Section 10(a) of the FESA. Implement measures developed through consultation with agencies and City at site during construction period.
Significant adverse effect on raptors.	Seven days prior to construction activities, a qualified biologist will survey within the limits of project disturbance for the presence of any active raptor nests/burrows. Any nest/burrow found will be mapped on construction plans; results will be provided to CDFG. If nesting activity is present the active site will be protected until nesting activity has ended. If an active nest/burrow is observed during the non-nesting season, it will be monitored by a biologist. When the raptor is away from the nest/burrow site, the biologist will flush any raptor to open space areas and remove the nest.
Indirect noise impacts would be significant if the coastal California gnatcatcher, least Bell's vireo, or nesting raptor is found within152.4 meters (500 feet) of the impact area and if construction were to occur during the nesting/breeding/dispersal season.	A Construction Noise Minimization Program will be submitted to the City prior to issuance of a grading permit.
Water quality impacts from urban and landscaping chemicals and nutrients.	Obtain a general National Pollution Discharge Elimination System (NPDES) Permit and comply with all the provisions of the permit including developing a Storm Water Pollution Prevention Plan (SWPPP). A monitoring program for construction and post-construction will be developed.
Invasive exotic plant species will degrade the native vegetation in the project vicinity.	Landscaping designs will be submitted to the City and reviewed by a biologist to determine that no invasive or exotic plant species are used in the proposed landscaping.
Night lighting will inhibit potential special status species wildlife from using natural open space areas adjacent to lighted areas.	A lighting plan will be submitted to the City for review and approval. Direct lighting away from natural open space areas.
High School/193 DU Alternative Impact 2.22 ha (5.48 ac) of riparian vegetation: 1.15 ha (2.84 ac) under ACOE jurisdiction and 1.54 ha (3.81 ac) under CDFG jurisdiction.	Same as Proposed Project 356/DU Mitigation Measures.
Construction would impact 28.52 ha (70.47 ac) of coastal sage scrub.	Same as Proposed Project 356/DU Mitigation Measures.
Impact 0.71 ha (1.76 ac) of native grassland.	Same as Proposed Project 356/DU Mitigation Measures.
May impact non-listed plant species within SCE easement and remedial grading areas.	Same as Proposed Project 356/DU Mitigation Measures.
Thread-leaved brodiaea may be located in the project impact area.	Same as Proposed Project 356/DU Mitigation Measures.
A location of Coulter's saltbush will be impacted.	Same as Proposed Project 356/DU Mitigation Measures.
Two pairs and five individual unpaired coastal California gnatcatchers would be directly impacted.	Same as Proposed Project 356/DU Mitigation Measures.
Significant adverse effect on raptors.	

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Indirect noise impacts would be significant if the coastal California gnatcatcher, least Bell's vireo, or nesting raptor is found within 152.4 meters (500 feet) of the impact area and if construction were to occur during the nesting/breeding/dispersal season.	Same as Proposed Project 356/DU Mitigation Measures.
Water quality impacts from urban and landscaping chemicals and nutrients.	Same as Proposed Project 356/DU Mitigation Measures.
Invasive exotic plant species will degrade the native vegetation in the project vicinity.	Same as Proposed Project 356/DU Mitigation Measures.
Night lighting will inhibit potential special status species wildlife from using natural open space areas adjacent to lighted areas.	Same as Proposed Project 356/DU Mitigation Measures.
Forster Ranch Specific Plan Amendment	
Thread-leaved brodiaea population impacts.	Mitigation to meet California Endangered Species Act.
Impacts on the 13 pairs of California gnatcatcher, San Diego cactus wren, and their habitats.	Mitigation to meet satisfaction of USFWS and CDFG.
Marblehead Coastal	
Impacts to plants and wildlife.	Section 404 Permit and CDFG Streambed Alteration Agreement obtained. Preservation of 0.77 ha (1.9 ac) of existing wetlands and 0.61 ha (1.5 ac) of sage scrub. Restoration and enhancement of additional 1.01 ha (2.5 ac) of wetland habitat and 4.05 ha (10 ac) of CSS. Transplantation of 0.12 ha (0.30 ac) of needlegrass grasslands. Completion of recovery of Blochman's dudleya plants with buffer area surrounding reserve. Place 30.48 meters (100-foot) buffer adjacent to preserved/restored wetlands in canyon bottoms.
	Funding to provide long term monitoring and management of preserved and restored biological resources. Off site measures to mitigate impacts to wetlands and CSS.
Occupied CSS impacted, resulting in direct take of two coastal California gnatcatcher pairs.	Biologist to be on site to monitor and oversee netting and relocation of identified species. Avoidable CSS habitat to be temporarily fenced. CSS identified for protection to be periodically sprayed with water.
Pacific Point/San Juan Meadows	
Loss of CSS community.	Implement the required Concept Giant Reed Eradication and Riparian Revegetation Plan and the Tree Preservation Plan.
Man-made wetlands impacted.	
Two sensitive animal species and one plant species will possibly be impacted.	Acquisition of all necessary permits. Coordination with CDFG and ACOE.
	Adequate mitigation of California gnatcatcher per CDFG and/or USFWS.
	Spring survey done to determine presence/absence of San Diego coast horned lizard and turkish rugging. Applicant to mitigate the loss of either or both species in accordance with agency requirements if found to inhabit the site.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera Planned Community)	
Loss of 33.6 ha (83.05 ac) (17.6 percent) of sagebrush scrub. Sagebrush scrub provides habitat for the California gnatcatcher, cactus wren, Southern California rufous-crowned sparrow and Bell's sage sparrow.	Impacts on sagebrush and the wildlife habitat it represents will be mitigated through participation in the south subregional NCCP and avoidance of sagebrush areas during the nesting season of sensitive bird species.
	If construction coincides with breeding seasons of the species, surveys will be conducted for presence/absence. If present, no grading activities shall occur. Sagebrush scrub habitat to be preserved permanently on Chiquita Ridge in conjunction with the NCCP.
Affect 2.27 ha (5.62 ac) (28.5 percent) of coast live oak woodland.	Tree relocation/replacement program for coast live oaks and sycamore trees and a management program shall be developed prior to grading.
	If during raptor breeding season, survey shall be conducted for active raptor nests. If nests are found no construction shall take place within 152.4 meters (500 feet) and trees shall be removed during non-breeding season.
	If after final design impacts remain, the avoidance, protection, and replacement guidelines suggested for the primary alignment will be implemented.
Loss of 2.81 ha (6.94 ac) (9.6 percent) of the arroyo willow riparian forest.	Formal wetland delineation must be conducted.
	Impacts would be mitigated through mitigation plans required by the ACOE and CDFG.
Riparian habitat provides habitat to southwestern willow flycatcher, least Bell's vireo, yellow warbler and yellow-breasted chat.	Preconstruction surveys will be conducted to ensure that no protected species have moved into the area. If present, grading and habitat removal shall not take place during breeding season.
Impacts on the southern subregional NCCP.	Upon adoption of the southern subregional NCCP, the primary alignment may require redesign.
Loss of 908.31 ha (2,244.40 ac) (56.3 percent) annual grassland.	Partially mitigated through the permanent preservation protection of an area of similar habitat and size.
This would affect several sensitive raptor species known to occur in the area.	The Resource Management Plan (REMP) provides measures to reduce impacts to raptor nesting sites through avoidance or relocation of nests. However, loss of habitat is significant.
Annual grassland represents substantial loss of breeding and foraging habitat for regional populations of the California horned lark, grasshopper sparrow, loggerhead shrike or tricolored blackbird.	Preconstruction surveys for active nests will be conducted. No grading or habitat removal to take place until after breeding season.
Loss of 1.52 ha (3.76 ac) (29.2 percent) of mulefat scrub.	Formal wetland delineation must be conducted.
Loss of 0.77 ha (1.92 ac) (4.3 percent) of scalebroom scrub.	Mitigation identified above for riparian and mulefat habitat applies to these resources.
Loss of 1.36 ha (3.37 ac) (34.0 percent) of open water.	
Fragmentation of amphibian, reptile and small mammal species populations.	Partially mitigated through design and construction of bridges at northernmost and southernmost segments of the primary alignment.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Loss of 1,052.22 ha (2,600 ac) of natural habitat would result in impacts on wildlife resources.	Approximately 647.52 ha (1,600 ac) of natural habitat in the study area will be preserved in permanent open space.
Loss of 26.49 ha (65.45 ac) of suitable habitat for the Orange County Turkish rugging, Blochman's dudleya, many-stemmed dudleya, sticky dudleya, Parry's tetracoccus and thread-leaved brodiaea.	Focused surveys for these species shall be conducted prior to plan approvals. Populations identified shall be avoided or transplanted to the natural open space areas.
Loss of known western spadefoot toad population and substantial loss of suitable habitat for the western spadefoot toad and Riverside fairy shrimp.	Focused survey for the Riverside fairy shrimp to be conducted. Avoidance and transplantation mitigation measures developed and implemented if needed.
	Focused surveys for the western spadefoot toad species to be conducted. Direct loss of individual toads can be mitigated by redesigning or by transplanting known populations.
Removal of habitat for 10 sensitive reptile species.	Evaluation of feasibility of avoiding sagebrush scrub on Chiquita Ridge and coast live oak woodlands within Area 1.
Loss of more than 1,052.22 ha (2,600 ac) of suitable habitat for the badger, San Diego black-tailed jackrabbit and northwestern San Diego pocket mouse.	Mitigation measures for sage scrub habitat apply here.
Arroyo Trabuco Golf Course	
4.73 ha (11.7 ac) CSS impacted, resulting in a significant adverse impact on the California gnatcatcher.	Dedication of 145.29 ha (359 ac) of open space, including natural habitats and other land cover types. Mitigation ratio is 4.7:1 for CSS.
	Revegetation of 1.21 ha (3.0 ac) of CSS per revegetation plan.
	During construction, a monitoring program to be implemented for impacts to the California gnatcatcher, to include: - Grading limitations during breeding season. - Prior to commencement of grading operations or other soil disturbing activities all areas of CSS to be avoided by construction equipment and marked with temporary fence. - Survey conducted to locate gnatcatchers within 100 feet of project. - Erosion and sediment controls to be implemented during construction. - Monitoring biologist to be onsite during clearing of CSS. - Limitation of heavy construction within 300 feet of occupied habitat to periods outside breeding season. - Contractor education program conducted for personnel.
	Brown-headed cowbird trapping program to begin the first spring following golf course construction for 20 years or until no cowbirds are trapped for five consecutive years or until an alternative cowbird control method can be used.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
14.65 ha (36.2 ac) annual grassland, 6.1 ha (15.1 ac) valley needlegrass grassland and 3.8 ha (9.3 ac) of disturbed valley needlegrass impacted.	Dedication of 6.11 ha (359 ac) of open space, including natural habitats and other land cover types. Mitigation ratios are as follows: - 2.1:1 for valley needlegrass grassland. - 3:1 for disturbed valley needlegrass grassland.
	Revegetation of 7.37 ha (18.2 ac) of native grassland per revegetation plan.
0.085 ha (0.21 ac) of freshwater marsh and 0.31 acre of disturbed wetland disturbance.	Dedication of 6.11 ha (359 ac) of open space, including natural habitats and other land cover types.
	Revegetation of 6.48 ha (16.0 ac) of wetland and riparian habitat per revegetation plan.
5.02 ha (12.41 ac) of riparian habitat disturbance, resulting in significant impacts on the least Bell's vireo.	Dedication of 6.11 ha (359 ac) of open space, including natural habitats and other land cover types. Mitigation ratio is 8:1 for riparian.
	Revegetation of 6.48 ha (16.0 ac) of wetland and riparian habitat per revegetation plan.
	Construction monitoring program implemented for impacts to least Bell's vireo. Indirect impacts mitigated by limiting heavy construction within 91.44 meters (300 feet) of occupied habitat to periods outside breeding season. Erosion and sediment control during construction. Monitoring biologist onsite.
	Potential impacts from human intrusions to be controlled by installation of "barrier plantings," fencing and signage along trail and golf course. Control plan for human intrusion to be prepared and submitted.
	Brown-headed cowbird trapping program to begin the first spring following golf course construction for 20 years or until no cowbirds are trapped for five consecutive years or until an alternative cowbird control method can be used.
0.134 ha (0.33 ac) of sycamore trees disturbed.	Dedication of 6.11 ha (359 ac) of open space, including natural habitats and other land cover types.
	Revegetation of 6.48 ha (16.0 ac) of wetland and riparian habitat per revegetation plan.
Temporary disturbance of 2.63 ha (6.49 ac) of open water.	Dedication of 6.11 ha (359 ac) of open space, including natural habitats and other land cover types.
	Revegetation of 15.05 ha (37.2 ac) of various habitats.
Impact to 0.038 ha (0.095 ac) of ACOE jurisdictional waters/wetlands and permanent impacts to CDFG jurisdiction total 0.836 ha (2.065 ac.)	Implementation of revegetation program.
	Resource Management Plan prepared for review and approval prior to issuance of grading permit.
	Wetland creation areas will be monitored for five years to determine compliance with performance standards.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Dana Point Headlands	
Terrestrial Biological Resources Directly impact 32.05 ha (79.2 ac) of the project site, resulting in the loss of approximately 11.61 ha (28.7 ac) of sensitive vegetation communities that provide habitat for several sensitive wildlife species.	Implementation of the NCCP Guidelines under the Orange County Central/Coastal Subregion NCCP/HCP Program and Implementation Agreement, along with Project Conditions, will reduce impacts to sensitive wildlife species to less than significant. No mitigation required.
Directly impact 18.26 ha (45.11 ac) of Developed/Ornamental, 0.98 ha (2.42 ac) of Disturbed Ruderal, 0.23 ha (0.58 ac) of Disturbed Grassland and 0.67 ha (1.65 ac) of Disturbed Southern Needlegrass Grassland. Of the sensitive grassland on site, a total of 11.33 ha (28.0 ac) of coastal sage scrub, 0.74 ha (1.83 ac) of disturbed CSS, 0.247 ha (0.61 ac) of southern coastal bluff scrub will be impacted by the proposed project.	Implementation of the NCCP Guidelines under the Orange County Central/Coastal Subregion NCCP/HCP Program and Implementation Agreement, along with Project Conditions, will reduce impacts to sensitive habitats and sensitive plant species' habitats to less than significant. No mitigation required.
Indirect impacts to vegetation and wildlife due to excessive landscape irrigation, fuel modification, vegetation trampling outside of marked trails, introduction of non-native species, residential noise and lighting and temporary impacts to wildlife from construction activities.	Implementation of the NCCP Guidelines under the Orange County Central/Coastal Subregion NCCP/HCP Program and Implementation Agreement, along with Project Conditions, will reduce indirect impacts to vegetation and wildlife to less than significant. No mitigation required.
Impact two jurisdictional drainages totaling 0.023 ha (0.056 ac).	No significant; however, requires permits from the ACOE, CDFG and Regional Water Quality Board (RWQCB) as stated in the Project Conditions. No mitigation required.
Impacts related to species interactions and ecosystem function are offset due to the developer's participation in the NCCP/HCP.	Implementation of Project Design Features and Project Conditions addresses all impacts to terrestrial biological resources.
Impact up to ten individuals of Coulter's saltbush a sensitive plant on California Native Plant Society (CNPS) List 1B.	Prior to any site preparation, the project site shall be surveyed for the presence of extant individuals of Coulter's saltbush; the location shall be identified and fenced. Cuttings and seed collection shall be taken prior to translocation. Individuals shall be transplanted to suitable, protected areas on site in the Hilltop area and also in the Conservation Park. Applicant will ensure adequate funding for a botanist to monitor the translocation sites for a period up to five years. Also, the same protection measures shall be provided for individuals of Blochman's dudleya.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
The project, when combined with other proposed or approved projects in the region, contributes to cumulative impacts to terrestrial biological resources.	Prior to any site preparation, the project site shall be surveyed for the presence of extant individuals of Coulter's saltbush; the location shall be identified and fenced. Cuttings and seed collection shall be taken prior to translocation. Individuals shall be transplanted to suitable, protected areas on site in the Hilltop area and also in the Conservation Park. Applicant will ensure adequate funding for a botanist to monitor the translocation sites for a period up to five years. Also, the same protection measures shall be provided for individuals of Blochman's dudleya.
Marine Biological Resources Beach erosion from stormwater discharges.	Implementation of Project Design Features will reduce velocity of stormwater and minimize erosion; impacts will be less than significant. No mitigation required.
Minor change to physical characteristics of Strand Beach.	Implementation of Project Design Features will ensure no significant impacts to the beach. No mitigation required.
Discharge of runoff from storm drains.	Implementation of Project Design Features will reduce impacts to marine biological resources. No mitigation required.
Construction of the revetment structure may affect marine biological communities.	Implementation of Project Design Features will reduce impacts to marine biological resources. No mitigation required.
Increased usage of Dana Point Marine Life Refuge and Niguel Marine Life Refuge.	Implementation of Project Design Features will reduce impacts to marine biological resources. No mitigation required.
Lighting associated with the project may affect grunion attempting to spawn on Strand Beach.	Specification on allowable types of lighting for project facilities.
Cumulative effects on marine biological resources.	Implementation of Project Design Features will reduce cumulative impacts to marine biological resources. No mitigation required.
Coastal Processes New storm drain facilities.	Beneficial to water quality. No mitigation required.
Two new paths for public access to Strand Beach.	Very minor encroachment. No mitigation required.
Reconstruct existing revetment in back of Strand Beach.	Beneficial to public safety, public access, and will help prevent erosion and geologic instability. No mitigation required.
Construction of the revetment structure will not substantially change the physical characteristics of Strand Beach.	Implementation of Project Design Features will reduce potential beach erosion impacts and beach width or beach characteristics. No mitigation required.
Structural and nonstructural measures during construction and operation to reduce erosion and transport of soil material to the marine environment.	Implementation of Project Design Features will reduce potential beach erosion impacts. No mitigation required.
Potential for minor wave overtopping to occur under extremely rare conditions (every 500 years).	Implementation of Project Design Features will ensure that no significant impacts to property and risk to life from storm induced waves occur. No mitigation required.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
Saddleback Meadows	
Direct Impacts Total direct impacts to sensitive vegetation communities and habitats would be approximately 66.18 ha (163.52 ac). Approximately 0.587 ha (1.45 ac) of streambed under CDFG jurisdiction would be significantly impacted. Direct impacts would not occur to any federal or state listed endangered or threatened plant species. The Riverside fairy shrimp and western spadefoot toad would be impacted by impacts to a 0.162 ha (0.4 ac) ephemeral pond. There is potential for raptor species to nest in trees on site making active nests subject to the federal Migratory Bird Treaty Act.	Design features include the provision of a mitigation plan subject to the jurisdiction of the USFWS which has issued a biological opinion. The plan mitigates impacts to wetland/riparian habitat, sensitive upland habitats and wildlife movement. The plan also incorporates design and mitigation to allow wetlands preservation and replacement, and streambed and pond alteration and replacement. Surveys for raptors are required and if found a 91.44 meters (300-foot) noise buffer from construction work between December and June is required.
Indirect Impacts Indirect impacts could include habitat fragmentation, habitat insularization, edge effects, exotic species invasion, lighting, domestic pet intrusion/predation and increased human intrusion.	Mitigation measures include lighting shielding, fencing of special open space mitigation areas, and control of silt through grading management plan to protect the watershed, ephemeral ponds and wetland mitigation areas.
Cumulative Implementation of the proposed project in conjunction with other projects in the region would result in incremental cumulative impacts to: • Overall habitat loss and degradation; • Riverside fairy shrimp; • Jurisdictional areas; • Oak woodland; and • Wildlife movement.	A corridor to accommodate wildlife movement through the site has been included in the design of the project. Mitigation measures and design features reduce these impacts to less than significant.
Orange County Great Park (Formerly MCAS El Toro)	
Fragmentation of ecosystems resulting from the incremental loss of native habitats.	Designation of 394.18 ha (974-ac) Habitat Preserve to ensure that development within the project area is compatible with the established Orange County NCCP.
	A wildlife corridor, connecting two preservation areas in the County, is proposed.
	The City of Irvine participates in the NCCP program and requires development to be in accordance with the NCCP.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in the Draft EIR #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
Coast live oak woodland, southern cactus scrub and mixed coastal sage scrub communities onsite represent sensitive communities. Direct and indirect impacts to these resources will result in cumulative, regional impacts.	Applicant shall have tree resources surveyed for active nest sites by a qualified biologist.
The loss of habitat for many common species and at least 25 sensitive species is considered cumulatively significant.	A construction biologist shall be on-site to monitor all construction-related and resources management-related activities.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Summary of Impacts	Summary of Mitigation
The project will contribute to cumulative impacts to jurisdictional waters, resulting in fragmentation of direct tributaries to Aliso Creek and potentially causing secondary effects to the upstream portion of the tributaries.	Obtain fill and streambed alternation permits from the ACOE and CDFG.
	Applicant shall demonstrate consistency the Foothill Trabuco Specific Plan (FTSP).
	Provide a minimum 7.62 meters (25-foot) buffer zone within the required 15.24 meters (50-foot) setback, of native shrubs and trees.
	Exterior lighting shall be prohibited within the 50-foot setback zone.
	Fencing in the 15.24 meters (50-foot) setback zone shall be limited to open fencing and does not exceed 101.6 cm (40 inches) in height above the finished grade.
	Prepare signage and buyer awareness program to inform homeowners of the proximity to sensitive wildlife areas.
	All residences, upon occupancy, shall be given brochures to inform them of the benefits, responsibilities and dangers associated with living close to natural areas.
	The applicant shall prepare a statement for homeowners in the sales disclosure statement and/or Covenants, Conditions, and Restrictions (CC&Rs) regarding the damage of invasive species.
	Tree management and preservation shall be conducted in consultation with the County.
	A tree restoration, preservation and management plan shall be prepared
	An International Society of Arborculture (ISA)-certified Arborist shall assess unanticipated tree-related issues, formulate a remedy and carry out the remedy.
	Measures to mitigate impacts to 1.74 ha (4.3 ac) of coastal sage scrub and scrub-chaparral ecotone on Saddle Crest will include the off-site acquisition and preservation of similar habitat at a ratio of at least 2:1.
	Section 7 Consultation process will address the impacts to approximately 14.16 ha (35-ac) of coastal sage scrub and scrub-chaparral. This may require on- or off-site preservation of similar habitat at a ratio of at least 2:1.
	Impacts to the approximately 8.5 ha (21-ac) of coastal sage scrub and scrub-chaparral ecotone may be addressed by: - Interim habitat loss 4(d) take permit. - Section 7 or Section 10a permit process. - If not considered occupied, off-site acquisition and preservation of similar habitat at a ratio of at least 2:1.
	Impacts to 6.07 ha (15-ac) of CSS and scrub-chaparral ecotone will be addressed through a Section 7 Consultation process. This may require on-or off-site mitigation of similar habitat of at least 2:1. A 4(d) interim habitat loss take permit may also be required.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

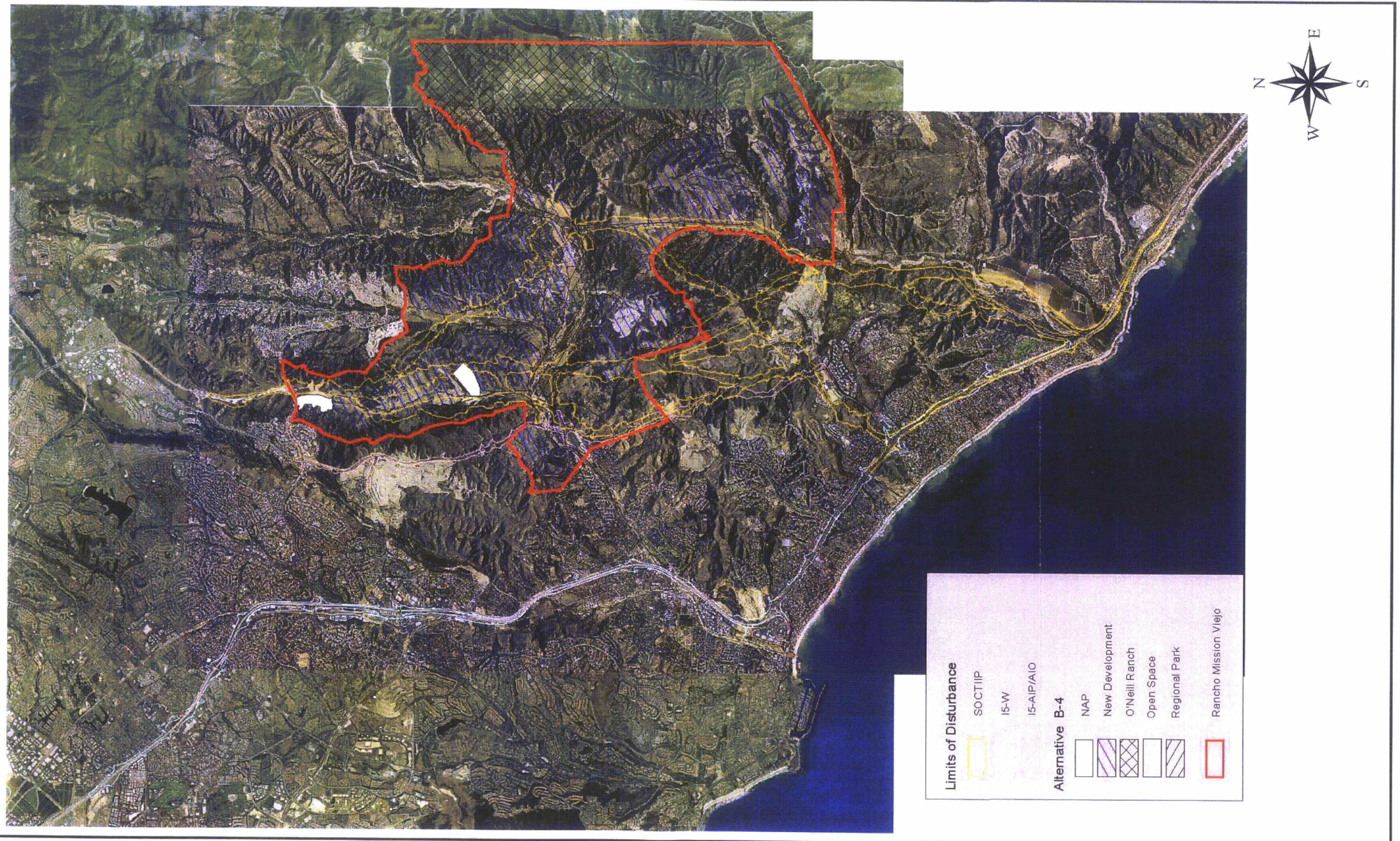
Summary of Impacts	Summary of Mitigation
	Grading and Site Development Permit Applications shall contain identification of the limits of disturbance of CSS, native grasslands, oaks and oak woodland, riparian, streams, lakes, reservoirs, and basin habitats resulting from grading and construction-related activities and fuel modification plans.
	Prior to the issuance of a grading permit, the applicant shall obtain an approved 4(d) Interim Habitat Loss Permit and/or other written authorization from the USFWS and the CDFG.
	Prior to grading and construction activities, the limits of disturbance shall be staked and/or marked in the field consistent with the acreage amounts and limits of disturbance identified in the 4(d) Permit.
	Prior to construction activities, the County shall review all permit requirements.
	No gnatcatcher-occupied CSS removal/disturbance shall occur during the California gnatcatcher breeding and nesting season.
	The County shall be reimbursed 100 percent for all hours utilized monitoring project compliance with the NCCP program, state and federal agency permits, project conditions and associated CEQA mitigation measures.
	All state and federal permits shall be posted on the job site by the contractor and made available upon request to the County.
	Measures to mitigate impacts to needlegrass will include either off-site acquisition and preservation of habitat and/or revegetation on-site at a ratio of at least 1:1.
	Impacts to southern willow scrub will be addressed during the ACOE and CDFG permit process.
	Impacts to foothill mariposa lily and chaparral nolina will be mitigated with a mitigation plan prepared according to agency specifications.
	The impact to jurisdictional waters and wetlands is considered significant due to the fragmentation of direct tributaries to Aliso Creek and related habitat.
	The project's contribution to regional losses of coastal sage scrub, chaparral, and woodland habitats represents a cumulatively significant impact.
	Impacts to oak and sycamore trees and oak woodlands.
	The loss of habitat for many common species - at least 25 sensitive species (other than those listed as threatened or endangered) - is considered cumulatively significant.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Possible sensitive plants, endangered species and heritage tree.	Surveys, replacement, avoidance, relocation and control of lighting.

Table 5.3-5 (continued)
Summary of Impacts for Cumulative Projects Related to Biological Resources

Source: P&D Consultants, (2003)

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.



Source: P&D Consultants, Psomas (2003).

SOCTIIP Alternatives in Relation to RMV Reserve Alternative B-4

Source: P&D Consultants, Psomas (2003).

SOCTIIP Alternatives in Relation to RMV Reserve Alternative B-8

Table 5.3-6
Conservation of Biological Resources within the Southern Subregion and Rancho Mission Viejo[1]

Alternative	Species									Habitats				
	California Gnatcatcher	Least Bell's Vireo	Southwestern Willow Flycatcher	Arroyo Toad	San Diego Fairy Shrimp	Riverside Fairy Shrimp	Cactus Wren	Grasshopper Sparrow	Historic Raptor Nest Sites	Coastal Sage Scrub	Chaparral	Grassland	Woodland	Riparian
Overall Southern Subregion														
B-1	85%	85%	100%	100%	25%	22%	91%	86%	86%	88%	85%	70%	85%	82%
B-2	82%	80%	71%	100%	75%	22%	89%	74%	81%	85%	83%	65%	82%	78%
B-3	74%	85%	100%	100%	75%	22%	78%	53%	78%	81%	78%	63%	78%	78%
B-4	**77%**	**83%**	**100%**	**100%**	**75%**	**22%**	**73%**	**46%**	**75%**	**79%**	**77%**	**60%**	**80%**	**75%**
B-5	73%	85%	100%	100%	75%	22%	77%	54%	76%	79%	76%	66%	76%	76%
B-6	81%	85%	100%	100%	75%	22%	81%	77%	79%	79%	76%	61%	77%	76%
B-7	77%	85%	100%	100%	75%	22%	78%	65%	78%	80%	76%	63%	77%	77%
B-8	**83%**	**87%**	**100%**	**100%**	**75%**	**22%**	**87%**	**85%**	**84%**	**84%**	**80%**	**68%**	**82%**	**79%**
Rancho Mission Viejo														
B-1	98%	97%	100%	100%	33%	50%	100%	85%	94%	99%	100%	90%	97%	98%
B-2	89%	87%	67%	100%	67%	50%	95%	79%	82%	91%	95%	75%	79%	88%
B-3	64%	97%	100%	100%	67%	50%	65%	53%	74%	80%	84%	71%	59%	88%
B-4	**73%**	**93%**	**100%**	**100%**	**67%**	**50%**	**52%**	**44%**	**68%**	**76%**	**83%**	**61%**	**70%**	**81%**
B-5	63%	97%	100%	100%	67%	50%	63%	55%	71%	74%	79%	79%	48%	83%
B-6	87%	97%	100%	100%	67%	50%	74%	83%	77%	77%	79%	63%	50%	84%
B-7	75%	97%	100%	100%	67%	50%	66%	68%	75%	76%	80%	69%	51%	86%
B-8	**91%**	**100%**	**100%**	**100%**	**67%**	**50%**	**89%**	**93%**	**86%**	**88%**	**88%**	**84%**	**79%**	**93%**

Source: These data were obtained from the South Orange County Coordinated Planning Process (2003). They represent the percentage of habitat conserved over the referenced planning area (Southern Subregion or RMV). Some of these alternatives have been rejected from further consideration by SOCCPP; however, they are retained for the perspective of the planning process.

[1] Bolded alternates are discussed in text.

Natural Environment Study (P&D Consultants, 2003).

Table 5.3-7
Impacts to Plant Communities by Ultimate Alignment in the Rancho Mission Viejo Study Area[1]
(Measurements are Percentages)

	Far East Corridor (FEC)		Central Corridor (CC)		Alignment 7 (A7C)	
Community[2]	**FEC-W**	**FEC-M**	**CC**	**CC-ALPV**	**A7C-ALPV**	**A7C-FEC-M**
Venturan-Diegan Coastal Sage Scrub (2.3)	**0.578**	**0.701**	**1.189**	**1.189**	**0.779**	**0.066**
Other Scrub (2.1,2.4,2.7)	0.187	0.177	0.000	0.000	0.000	0.122
Coastal Sage Scrub/Grassland Ecotone (2,8)	**0.003**	**0.003**	**0.262**	**0.262**	**0.012**	**0.003**
Chaparral Communities (3.2, 3.3, 3.7, 3.12)	0.112	0.116	0.468	0.468	0.097	0.067
Native Grassland (4.2, 4.3, 4.4)	**0.009**	**0.170**	**0.084**	**0.084**	**0.023**	**0.013**
Annual Grassland (4.1)	0.303	0.552	1.490	1.490	0.685	0.142
Ruderal Grassland (4.6)	0.049	0.006	0.015	0.015	0.011	0.000
Vernal Pools, Seeps, & Wet Meadows (5.0)	**0.000**	**0.000**	**0.047**	**0.047**	**0.043**	**0.000**
Marsh Communities (6.0)	**0.000**	**0.000**	**0.094**	**0.094**	**0.061**	**0.000**
Riparian Communities	**0.205**	**0.100**	**0.107**	**0.107**	**0.044**	**0.111**
Woodland Communities	**0.194**	**0.163**	**0.160**	**0.160**	**0.047**	**0.086**
Lakes, Reservoirs, & Basins (12.0)	0.000	0.009	0.004	0.004	0.000	0.000
Water Courses (13.0)	**0.000**	**0.000**	**0.019**	**0.019**	**0.000**	**0.000**
Cliff and Rock Communities (10.3)	**0.000**	**0.000**	**0.025**	**0.025**	**0.000**	**0.000**
Agriculture (14.0)	0.937	0.873	0.376	0.376	0.343	0.480
Developed, Disturbed, Graded (15.0, 16.0)	0.159	0.220	0.219	0.219	0.134	0.069
Total	**2.736**	**3.090**	**4.559**	**4.559**	**2.368**	**1.186**

[1] Arterial Improvement Only (AIO) and I-5 Alternatives are outside of the Rancho Mission Viejo study area and, therefore, would not result in impacts to plant communities.
[2] **Bolded** text indicates communities that are sensitive.

Table 5.3-8
Impacts to Sensitive Plant Species by Alignment in the Rancho Mission Viejo Study Area

	FEC-W			FEC-M			CC- Complete			CC-ALPV			A7C-ALPV			A7C-FEC-M		
Rare Plant Species[2]	Populations	Individuals	Acres (hectares)	Populations	Individuals	Acres (hectares)	Populations	Individuals	Acres (hectares)	Populations	Individuals	Acres (hectares)	Populations	Individuals	Acres (hectares)	Populations	Individuals	Acres (hectares)
Coulter's saltbush (*Atriplex coulteri*)	1	6	0.002 (0.001)	2	9	0.022 (0.009)	2	600	0.103 (0.0412)	2	600	0.103 (0.042)	1	6	0.002 (0.001)	–	–	–
Thread-leaved brodiaea (*Brodiaea filifolia*)	–	–	–	1	21	0.013 (0.005)	–	–	–	–	–	–	–	–	–	–	–	–
Catalina mariposa lily (*Calochortus catalinae*)	3	116	1.010 (0.409)	3	67	1.021 (0.413)	7	210	0.32 (0.128)	7	210	0.320 (0.130)	5	149	2.035 (0.824)	2	20	0.132 (0.053)
Intermediate mariposa lily (*Calochortus weedii var. intermedius*)	1	20	0.980 (0.397)	1	70	0.980 0.397	3	693	0.369 (0.1476)	3	693	0.369 (0.149)	1	70	1.375 (0.556)	1	70	0.135 (0.055)
Southern tarplant (*[Hemizonia] parryi sp. australis*)	1	750	1.210 (0.490)	1	750	1.230 (0.498)	–	–	–				1	750	1.713 (0.693)	–	–	–
Prostrate spineflower (*Chorizanthe procumbens*)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Many-stemmed dudleya (*Dudleya multicaulis*)	7	1,620	1.136 (0.460)	7	1,620	1.230 (0.498)	15	1,144	1.147 (0.4588)	15	1,144	1.147 (0.464)	4	655	1.523 (0.616)	2	81	0.151 (0.061)
Beaked spikerush (*Eleocharis rostellata*)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Palmer's grapplinghook (*Harpagonella palmeri*)	–	–	–	–	–	–	–	–	–				1	1,092	0.058 (0.023)	–	–	–
Hedge-leaved horkelia (*Horkelia cuneata ssp. cuneata*)	–	–	–	–	–	–	–	–	–				–	–	–	–	–	–
California juniper (*Juniperus californica*)	–	–	–	–	–	–	1	1	0.016 (0.0064)	1	1	0.016 (0.006)	–	–	–	–	–	–
Small-flowered microseris (*Microseris douglasii var platycarpa*)	–	–	–	–	–	–	–	–	–				–	–	–	–	–	–
Salt spring checkerbloom (*Sidalcea neomexicana*)	–	–	–	–	–	–	–	–	–				–	–	–	–	–	–
Total	**13**	**2,512**	**4.338 (1.757)**	**15**	**2,537**	**4.496 (1.820)**	**28**	**2,648**	**1.955 (0.782)**	**28**	**2,648**	**1.955 (0.791)**	**13**	**2,722**	**6.706 (2.714)**	**5**	**171**	**0.418 (0.169)**

[1] Source: Psomas GIS data maps (2003).

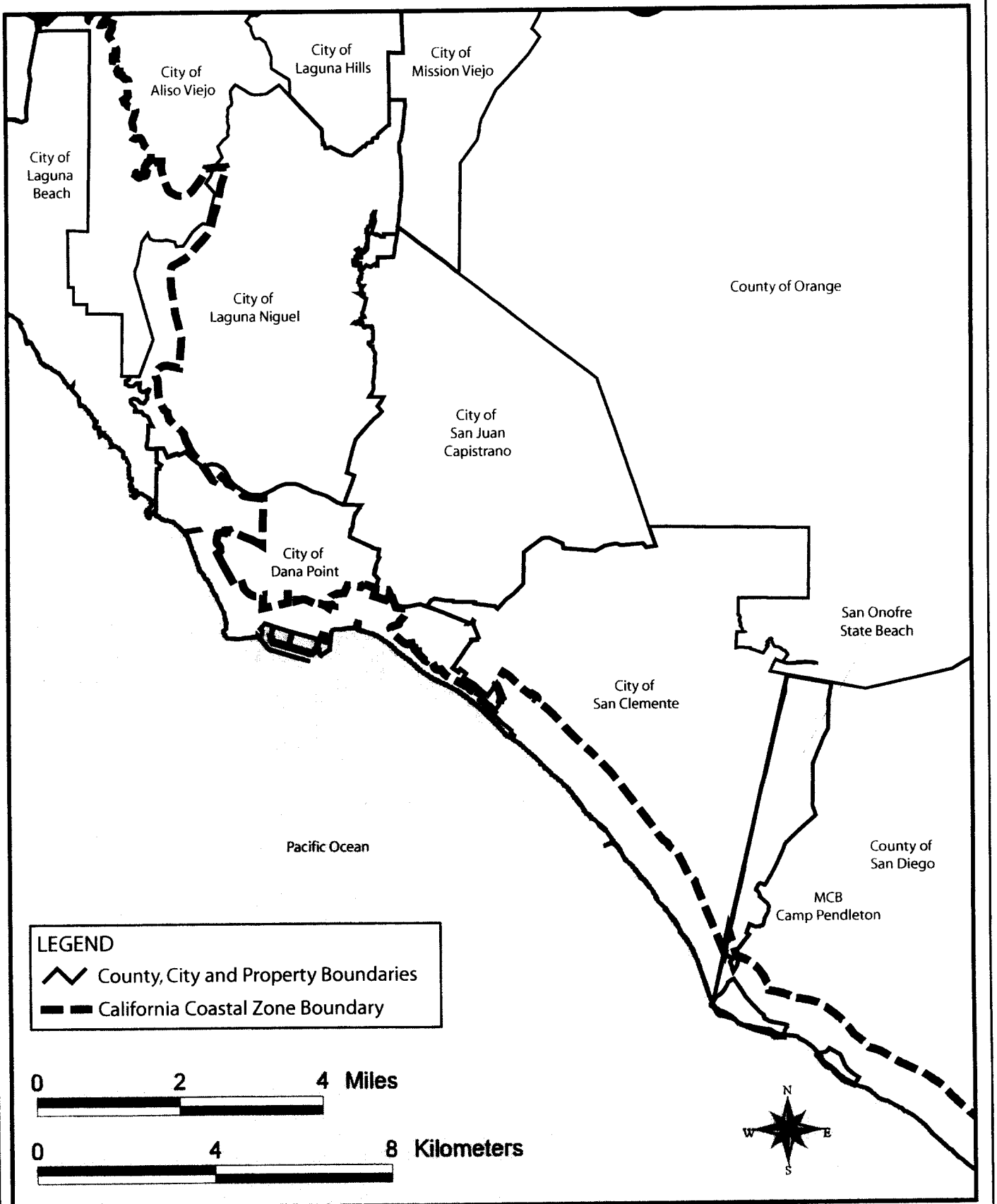
[2] Number of populations and estimate of number of individuals of sensitive species located within Ranch Mission Viejo study area. Other sensitive species listed in Table 5.3-1 were not located during the field reconnaissance.

Numbers should be used for comparing alternatives, since population numbers will change annually due to climatic changes.

[3] Total number of populations recorded in California

[4] Total populations in Orange County and Camp Pendleton combined Source: California Natural Diversity Database April 9,2003

N/A Populations not listed in CNDDB



Source: California Coastal Commission Staff and P&D Consultants (2001)

California Coastal Zone Boundary in the SOCTIIP Study Area

Table 5.3-9
Summary of Impacts for Cumulative Projects Related to Historic and Archeological Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
Information not provided.	--
Talega Valley Specific Plan (Champion Hills; The part of the Talega Development in the City of San Clemente)	
Potential to directly impact 21 archaeological sites and 10 historic sites, potential for five additional archaeological sites indirectly impacted.	Investigation to be conducted by archaeologist. Resource management program to be developed pursuant to investigation.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Potential to disturb archaeological resources.	In the event potential resources are discovered, notifications and investigations are to be made.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Known and potential archaeological resources could be disrupted or removed as a result of landfilling improvements and uses.	An archaeologist will prepare Testing, Monitoring and Salvage Program for Archaeological Resources.
Other Projects Listed In The Landfill GDP EIR	
Some archaeological sites will be impacted by construction activities. There are no known historic resources impacted by these projects.	Impacts on archaeological resources are anticipated to be mitigated to a less than significant level. No mitigation is required for historic resources.
Whispering Hills Planned Community	
Proposed Project/356 du: Construction could potentially impact unknown archeological resources.	An archaeologist will be onsite during all grading excavation operations and other significant ground disturbing activities.
	If archaeological resources are discovered during construction, the site area shall be secured and the City notified.
	A Final Archaeological Report shall be prepared by the project archaeologist and submitted to the Planning Department.
Construction could potentially impact unknown human remains.	A mitigation monitoring program shall be submitted to the Planning Department to address the accidental discovery of human remains.
High School/193 du Alternative: Same as Proposed Project/356 du impacts.	Same as Proposed Project/356 du mitigation measures.
Forster Ranch Specific Plan Amendment	
Potential to disturb archaeological resources.	Monitoring by archaeologist during initial grading.
Marblehead Coastal	
Potential destruction of archaeological resources by grading and/or excavation.	Artifact and/or fossil preservation plans to be approved prior to issuance of rough grading permits.
Pacific Point/San Juan Meadows	
Four archaeological sites were previously identified and the probabilities of resources to exist are moderate to high.	Archaeological monitors for grading activities and reports on findings.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
Eight known archaeological sites and a cave are located within the site or in close proximity.	Archaeologist will investigate site, conduct salvage excavation and survey cave interior. Native American burial site circled with protective fencing.
Potentially significant impact on 22 cultural resource sites.	Archaeologist retained for investigations and surveillance.

Table 5.3-9 (continued)
Summary of Impacts for Cumulative Projects Related to Historic and Archeological Resources

Summary of Impacts	Summary of Mitigation
One historic resource within boundary of planning area.	Historian to be retained to catalogue and coordinate the removal and preservation of any old farm equipment of significance that is recovered.
Arroyo Trabuco Golf Course	
Grading and excavation could impact unknown archaeological resources.	Archaeologist to be retained to observe grading activities and salvage and catalogue resources as necessary.
Dana Point Headlands	
Grading may expose unknown subsurface sensitive archaeological resources. In addition, the San Onofre Breccia may be exposed during grading, resulting in potential impacts to the fossiliferous fine grained facies.	A qualified archeologist approved by the City of Dana Point shall be present at pregrade conferences, available to conduct random checks of graded areas and provide field assessment and recommendation for disposition should unique cultural materials be unearthed.
	Submit written evidence to City that a certified archaeologist has been retained to observed grading and to salvage and catalog resources, if necessary.
	If unique archaeological resources are unearthed, the Director of Community Development will determine whether studies or testing of the potential site have adequately recovered the scientifically consequential information about the unique archaeological resource. The archaeologist will submit a follow-up report including the period of inspection, cataloged and analysis if artifacts found and a repository listing for each of the found items.
	If human remains are encountered, no further disturbance of the site shall occur until the County Coroner has made a determination of origin and disposition. If the remains are determined to be prehistoric the Coroner will notify the Native American Heritage Commission (NAHC) which will determine a Most Likely Descendant (MLD). The MLD, with permission of the land owner may inspect the site within 24 hours of notification by the NAHC. And may recommend scientific removal and nondestructive analysis of human remains and items associated with the Native American burials.
Saddleback Meadows	
Grading may expose unknown subsurface sensitive archaeological resources.	A certified archeologist shall be present at pregrade conferences, will monitor grading activities, available to conduct random checks of graded areas and provide field assessment and recommendation for disposition should unique cultural materials be unearthed.
	If human remains of Native America origin are encountered during the project, the County Coroner's office and the Native American Heritage Commission shall be contacted for preservation and protection of the remains.
Two cultural resources sites are within the project limits.	One site will be salvaged, recorded and catalogued by a certified archeologist and the other will be preserved in place.

Table 5.3-9 (continued)
Summary of Impacts for Cumulative Projects Related to Historic and Archeological Resources

Summary of Impacts	Summary of Mitigation
Orange County Great Park (Formerly MCAS El Toro)	
Grading activities associated with future development may cause a substantial adverse change in the significance of an archaeological resource.	Prior to subdivision for development, a detailed archaeological report(s) shall be prepared within PAs 51 and 30 addressing the potential for encountering archaeological resources at the time specific development is proposed. The report shall provide recommendations to prevent degradation of archaeological resources.
	Monitoring of excavation and grading activities associated with future development in PAs 51 and 30 shall be conducted by a certified archaeologist. If resources are encountered during ground disturbance, the archaeological monitor shall halt grading and initiate an archaeological testing program.
	Prior to issuance of grading permits and/or building permits for any future development in PAs 51 and 30, a detailed mitigation monitoring program shall be submitted by the applicant to the City of Irvine to address archaeological resources discovered during grading.
Grading activities may uncover unknown human remains, including those interred outside of formal cemeteries.	Prior to issuance of grading permits and/or building permits, a mitigation program shall be submitted by the developer to the City of Irvine to address the accidental discovery or recognition of any human remains.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in EIR #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
The structures and resources that comprise CA-ORA-1518H, Primary No. 30-176627 (Watson Ranch) and Primary No. 30-176628 will be demolished with implementation of the proposed project.	Copies of the *Historic Resources Technical Report, Saddle Creek and Saddle Crest Properties* (October 21, 1999) by the Building Biographer, Tim Gregory, shall be furnished to the History Room of the Santa Ana Public Library, the Orange County Archives, and the County of Orange's HBP/Historical and Cultural Programs.
SADDLE CREEK The following identified archaeological resources will be impacted: • CA-ORA-1519. Prehistoric lithic quarry. • CA-ORA-1518H. Single-family residence, a privy, two sheds, and remains of a windmill water-pump within the 4S-Ranch (south) property. • CA-ORA-1517. A scatter of ground stone implements and chipped stone cores. • Primary No. 30-176627. Historical resources at the Watson Ranch, including a single-family residence, a barn, a storage shed, water tanks, and a free-standing barbecue. • Primary No. 30-176628. Historical resources, including a single-family residence, office structure, stone reservoir, barbecue, bunkhouse, barn and poultry and animal sheds and pens.	If avoidance of CA-ORA-1519, CA-ORA-1250, CA-ORA-1522, and CA-ORA-1517 is not possible, a Phase 2 evaluation of these sites shall be conducted. A collection shall be made of the diagnostic historic artifacts at CA-ORA-1518H. All recovered artifacts and ecofacts shall be cataloged and analyzed, and special studies shall be undertaken if the recovered cultural remains warrant such studies.
	The milling stones and other artifactual material on or in the wall at CA-ORA-1518H shall be collected and used for display or educational purposes.

Table 5.3-9 (continued)
Summary of Impacts for Cumulative Projects Related to Historic and Archeological Resources

Summary of Impacts	Summary of Mitigation
CA-ORA-1517 and -1519 are prehistoric lithic sites. The extent of these resources or potential impact cannot be determined without subsurface excavation. Since the project site is in a highly sensitive area for prehistoric cultural resources, additional unidentified archaeological remains could be present and potentially impacted by the modified Proposed Project.	
SADDLE CREST The project will impact the following identified archaeological resources: • CA-ORA-1250. Scatter of ground stone and chipped lithic material next to an historic open mining trench. • CA-ORA-1522. A mano and dispersed scatter of lithic reduction material. • CA-ORA-1523H. An historic period mine (Serrano Clay Mine). • CA-ORA-1521H. An historic period mine (Shoepe Clay Mine).	
CA-ORA-1250 and -1522 are prehistoric lithic sites. The extent of these resources or potential impact cannot be determined without subsurface excavation. Since the project site is in a highly sensitive area for prehistoric cultural resources, additional unidentified archaeological remains could be present and potentially impacted by the modified Proposed Project. Both Serrano and Shoepe Clay Mines within the Saddle Crest project area would be disturbed by the proposed project.	
Cumulative: Cumulative impacts of the loss of project site resources in conjunction with the potential loss of other area resources could result in the loss of significant resources that define and contribute to California's history and/or cultural heritage.	
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Impacts to one historic structure.	Preconstruction survey and providing official historic record and cataloging of the historic structure.

Source: P&D Consultants (2003).
Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.
1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Table 5.3-10
Summary of Impacts for Cumulative Projects Related to Hazards and Hazardous Materials

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community	
No information provided.	--
Talega Valley Specific Plan (Champion Hills)	
San Diego pipeline traverses Talega.	Prior to approval of subdivision maps, maps at a 1:400 scale to be provided depicting proposed alignment of 16-inch pipeline and existing 10-inch pipeline.
Chiquita Canyon High School (Now referred to as Tesoro High School).	
No information provided.	--
Prima Deshecha Sanitary Landfill (General Development Plan).	
Hazardous materials improperly brought to landfill.	Traffic control limiting access of vehicular traffic to landfilling areas.
Incomplete separation of refuse vehicles and biosolids disposal from recreational visitors (associated with future recreation uses on the landfill site).	Prior to opening any recreation uses on-site, development and implementation of on-site operating procedures that separate recreation users and trash vehicles as they enter the site and no members of the public allowed access to landfill.
Disposal of automobile shredder waste (ASW).	Maintain and implement operating procedures for acceptances and disposal of non-hazardous ASW.
Hazardous waste from on site maintenance of landfill vehicles.	Continue to maintain operating procedures for safe handling and removal of waste oil and other potentially hazardous materials.
Potential explosion, fire or personal exposure to hazardous materials or accumulation of landfill gas.	Maximize protection to workers consistent with all applicable state and federal regulations.
Potential fire and fire safety impacts. Potential fire risks associated with public access.	Ensure construction of permanent structures with enclosed spaces on landfilled areas will not occur unless the building is designed with protection from migrating landfill gas approved by Solid Waste Local Enforcement Agency (LEA).
	Maintain on site operating procedures for the avoidance and control of surface fires.
	Placement of fire warning signs along public roadways.
	Implementation of safe working practices regarding potential for surface fires associated with construction equipment and personal vehicles
Impacts associated with generation and surface migration of landfill gas (LFG).	Continue to ensure design and operation of landfilling activities include a LFG control system.
Presence of breeding mosquitos, flies and rodents.	Periodic monitoring for presence or potential presence of vectors. Implement vector control procedures and implement alternate, updated or new vector control procedures as requested by the LEA.
Potential vector nuisance associated with bodies of standing water.	Identification of specific measures to remedy standing bodies of water.
Potential vector nuisance associated with on site wastes during grubbing, clearing and construction activities.	Final construction plans to reflect specific measures that will be implemented during site clearing activities and measures to properly collect and dispose of construction wastes.
Potential health threat associated with possible hantavirus-infected deer mice.	Determination of existing species on property which have potential to carry/transmit the hantavirus. If warranted, specific vector control measures shall be identified, approved and implemented.

Table 5.3-10 (continued)
Summary of Impacts for Cumulative Projects Related to Hazards and Hazardous Materials

Summary of Impacts	Summary of Mitigation
Other Projects Listed in the Landfill GDP EIR	
No information provided.	--
Whispering Hills Planned Community	
A small surface stain on-site could be hazardous material or contaminated soil.	Identified stained soil shall be tested and remediated, if necessary.
The site may be impacted by LFG generated by the Prima Deshecha Landfill.	Homes within 304.8 m (1,000 ft) of Prima Deshecha Landfill will include systems to prevent methane-related hazards. Landfill records will be reviewed for groundwater monitoring well data, air sampling data and known soil data.
Forster Ranch Specific Plan Amendment	
No information provided.	--
Marblehead Coastal	
No information provided	--
Pacific Point/San Juan Meadows	
No information provided.	--
Antonio Parkway Roadway Alignment And Land Use Plan (Ladera Pc)	
Possible unidentified contamination occurrence in nurseries and agricultural fields.	Evaluation and remediation plan to be submitted if required.
Two underground fuel jet pipelines traverse land development.	
Two petroleum exploration wells are located within land development area.	Well abandonment documentation to be provided prior to recordation of final map or issuance of grading permit.
	Permit required for property within 91.4 m (300 ft) of any oil well prior to recordation of final map or issuance of grading permit and testing shall be conducted for the potential of methane gas migration.
	Prior to approval of first grading permit, submittal of design for barriers to public access to an exploratory oil well.
Arroyo Trabuco Golf Course	
The proposed project would not result in significant adverse impacts related to hazardous materials.	No mitigation required.
Dana Point Headlands	
Remediation and disposal of the trailer park and nursery facilities could, if uncontrolled, result in upset or accident conditions.	Implementation of Project Condition 6-1 would reduce impacts to below a level of significance. No mitigation required.
The northern boundary of the site is within 0.4 km (0.25 mi) of the grounds of Richard Henry Dam Elementary School.	Implementation of Project Condition 6-1 would reduce impacts to below a level of significance. No mitigation required.
Prior to the start of construction, demolition and cleanup, potentially hazardous materials must be removed from the site as recommended in the Phase I study.	If hazardous materials are determined to be onsite, removal of contaminated soils or materials will be removed prior to issuance of the grading permits.
Saddleback Meadows	
No impacts related to hazards or hazardous materials.	No mitigation required.

Table 5.3-10 (continued)
Summary of Impacts for Cumulative Projects Related to Hazards and Hazardous Materials

Summary of Impacts	Summary of Mitigation
Orange County Great Park (Formerly MCAS El Toro)	
Structures on the project site and portions of the project site are contaminated with hazardous materials by past military uses, such as asbestos and lead-based paint. Other hazards exists on the site, such as hazardous material deposits.	Prior to the conveyance of property and issuance of subsequent grading permits, where the presence of asbestos is identified, the DON shall ensure that all available information has been provided to the City. The DON shall ensure that all asbestos removal complies with applicable federal, state and local requirements.
Rancho Mission Viejo	
Will be analyzed in EIR #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
Wildland fires. Health Hazards Due to the proximity of the project site to extensive open space, topography, and vegetation, the site and surrounding area may support suitable habitat for the black-legged tick and deer mouse. **Cumulative:** Implementation of the modified proposed project in a Special Fire Protection Area has the cumulative potential impact of increased fire frequency and increased exposure for property loss and human risk during wildland fires in the project vicinity.	With incorporation of project design features, impacts are less than significant. No mitigation required.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Possible hazardous material on the site.	Standard mitigation for the handling and storage of hazardous materials, soils testing, lead, asbestos containing materials and leaky electrical transformers (PCBs).

Hazardous Materials and Wastes Technical Report (P&D Consultants, 2003).

Table 5.3-11
Summary of Impacts for Cumulative Projects Related to Aesthetics and Visual Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
Summary of Impacts	**Summary of Mitigation**
Significant landform changes.	Landscaping provided throughout development, architectural design guidelines established and prominent natural features maintained where feasible.
Talega Valley Specific Plan (Champion Hills; The part of the Talega Development in the City of San Clemente)	
Significant landform alteration.	Landscaping provided throughout development and structures not to project above ridge silhouette from City-designated viewpoints.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Short term impacts during construction.	No mitigation.
Tennis and stadium lighting.	Lighting to be designed and tested to ensure that light spill does not exceed standard specifications.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Landfill buildings, operations and topography changes visible from off-site vantage points and recreational areas. Background views of La Pata Avenue and recreational roads visible from outside the site.	Plantings will be integrated to screen undesirable views. Structures to be visually unique in apparent size and quality and should blend with the surrounding natural environment.
Visibility of landfill areas from off site viewsheds and/or protected ridgelines.	Facilities to be sited to minimize visibility from beyond the site.
Ridgeline impacts from structures for circulation and roadway uses.	Natural horizon line in existing landscape not to be interrupted by circulation and road structures.
Off site light and glare impacts.	Lighting design schemes to minimize potential glare. Lights to be no more than 12.2 m (40 ft) in height. Light fixtures to be hooded and contain direct cutoff refractors to concentrate lighting on site and minimize potential spill of light.
Other Projects Listed In The Landfill GDP EIR	
Projects may result in significant adverse impacts on aesthetics as natural open areas are converted to urban and semi-urban land uses. Impacts on land views could be significant. Combined visual impacts on night-time ambient light conditions anticipated to be significant from required lighting for traffic circulation.	No information provided on mitigation measures.
Whispering Hills Planned Community	
Proposed Project/356 du: Visual encroachment upon a General Plan-designated ridgeline.	Design standards shall be incorporated into finish grading to minimize visual impacts.
High School/193 du Alternative: Grading within 15.24 m (50 ft) of a General Plan-designated ridgeline.	Design standards shall be incorporated into finish grading to minimize visual impacts.

Table 5.3-11 (continued)
Summary of Impacts for Cumulative Projects Related to Aesthetics and Visual Resources

Summary of Impacts	Summary of Mitigation
Significant new sources of light and glare as a result of sport field and parking area lighting.	Lighting systems shall be designed such that 60 percent of the total light output is in the lower portion of the projected light below the maximum candlepower point and thereby directed onto the field to be illuminated.
	Light onto adjoining areas and into sky will be restricted and will meet the same criteria as above.
	Light as views from off-site locations will be controlled using the same criteria as above.
	Design Scheme "L" which places the stadium substantially behind the existing knoll will be utilized to provide light and glare screening.
Forster Ranch Specific Plan Amendment	
Interruption of ridgeline views.	Primary ridgelines' natural contours and vegetation to remain intact. Minimum horizontal setback of 60.96 m (200 ft) on each side of ridgeline (exception of Camino Vera Cruz).
Alteration of topography.	Development in hillsides to conform to the City's Hillside Development Ordinance. Inclusion of landscape plans for graded areas.
Marblehead Coastal	
Intrusive ambient light conditions from potential park improvements and ballfield lighting on the Shorecliffs Middle School site.	Conditional Use Permit required. Notification to prospective home buyers on Marblehead Coastal site.
Pacific Point/San Juan Meadows	
Significant visual impacts.	Las Ramblas to avoid bulky elements, walls to match walls of adjacent development, adequate and appropriate landscaping. Window Hill's structures not to be placed along highest ridge, create naturally-appearing features along crest, implement contour undulation and variable slopes, avoidance of unbroken two-story expanses, avoidance of structures that climb the hill, use of low wattage lighting and of adequate and appropriate landscaping. The Valley to use low, horizontal facades, slope contour grading, blend edges, use round berms and perimeter landscaping, use earthtones for roof materials and residential areas and limit pad grading. Lower slope to have low, horizontal facades, blended edges of proposed site with open space and use of round berms and perimeter landscaping. Underground reservoir to use low, variable berming, slope grading techniques, revegetation of grading activities, preserve natural vegetation wherever possible and revegetative trenches for water main placement.
Antonio Parkway Roadway Alignment And Land Use Plan (Ladera Pc)	
Visual impacts due to construction and land development.	Landscape plan integrated.
Arroyo Trabuco Golf Course	
Significant adverse landform or aesthetic impacts.	No mitigation required.

Table 5.3-11 (continued)
Summary of Impacts for Cumulative Projects Related to Aesthetics and Visual Resources

Summary of Impacts	Summary of Mitigation
Dana Point Headlands	
No significant adverse visual impact.	No mitigation required.
Increase light and glare intensity.	Implementation of Project Design Features will reduce impact to less than significant level. No mitigation required.
On-site construction activity and open unplanted earth will be visible from surrounding land uses and publicly accessible viewpoints.	Screened fencing will be installed during construction activities.
Saddleback Meadows	
Substantial landform alteration, impact to viewshed and light and glare impacts.	Implementation of the ten design features of the project address light and glare and impacts to viewshed to a less than significant level. No mitigation is required.
Orange County Great Park (Formerly MCAS El Toro)	
Introduction of new light and glare sources in the project area.	Lighting and signage plans shall be designed to ensure minimal light intrusion and spillover into residential areas. Buildings shall be designed to reduce glare impacts.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in the Draft Environmental Impact Report (EIR) #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
No significant impact to aesthetic resources.	No mitigation measures are necessary.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
Temporary construction impacts. No long term impacts.	Design and compliance with existing aesthetic policies.

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Visual Impact Assessment Technical Report (P&D Consultants, 2003).

Table 5.3-12
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
Significant and permanent alteration of existing landforms. 11.5 to 13.8 million cubic meters (cm) (15 to 18 million cubic yards (cy)) of earthwork for mass grading.	Prior to approval of Site Development Permit, conceptual grading plan to be submitted for approval with haul routes included.
	All slopes designed at 2-horizontal to 1-vertical or flatter.
	77 percent of property to be in some form of open space and recreation.
	Incorporated open space and scenic easements for ridgeline/view protection.
	Prominent natural features to be maintained in a natural state and incorporated into the landscape concept.
Potential hazards to property and life from possible future slope failures.	Conform to general recommendations presented in the geotechnical studies.
	Mitigation to be assessed and recommended by a qualified Engineering Geologist.
	Prior to recordation of the final tract map, rough grading plans to be approved.
	Prior to grading permit issuance, a precise grading plan will be approved.
	Prior to approval of Site Development Permit, conceptual grading plan to be submitted for approval including erosion, salutation and dust control plans included.
	All slopes designed at 2-horizontal to 1-vertical or flatter.
Site subject to seismic hazards.	Conform to general recommendations presented in the geotechnical studies.
	Prior to recordation of the final tract map, rough grading plans to be approved.
	Prior to grading permit issuance, a precise grading plan will be approved.
	Prior to approval of Site Development Permit, conceptual grading plans to be submitted for approval.
Potential increase in on site groundwater levels.	Conform to general recommendations presented in the geotechnical studies.
	Mitigation to be assessed and recommended by a qualified Engineering Geologist.
Talega Valley Specific Plan (Champion Hills; the part of the Talega Development in the City of San Clemente)	
Potential constraints and impacts include slope instability, problematic soil conditions, seismic activity, poor rippability of bedrock materials and erosion.	Conform to general recommendations presented in the geotechnical studies.
	Submittal of conceptual grading plan prior to approval of a tentative map.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
	Approval of rough grading plan prior to approval of the final tract map. Rough grading plans to include erosion, siltation and dust control plan to be approved by the Community Development Department of the City and the County.
	Approval of precise grading plan prior to building permit issuance.
	All grading plans to conform to City Hillside Development Ordinance.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Subjection to erosion, landslides and runoff impacts.	Prior to commencement of grading, a final project design plan to be prepared.
	Compliance with National Discharge Elimination System requirements of the California Regional Water Quality Control Board.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Landslide and mudslide activity during excavation period.	Geotechnical investigation to be done prior to designing each phased landfill plan.
	For each phased grading plan, the excavation and grading plan shall ensure the stability of all cut, fill and lined slopes.
	Ensure that the final design incorporates removal of all highly disturbed landslide debris prior to placement of fill.
Exposure to seismic activity.	Demonstration that landfill design plans comply with the state and federal seismic requirements.
	Prior to commencement of daily excavations for borrow material, grading plans shall be prepared, analyzed for slope stability and submitted for approval.
	Assumptions, methods and calculations used to demonstrate seismic safety to be presented.
Differential settlement associated with compression and decompression.	Assumptions, methods and calculations used to demonstrate that differential settlement of the site will not result in future environmental impacts is to be presented.
Demand for soil to be used as cover material.	Assumptions, methods and calculations used to demonstrate that the excavation plans provide for sufficient quantities and sources of suitable soils or alternative cover systems are identified.
Leachate migration into groundwater.	Continued leachate control operation.
	Continued groundwater monitoring operation.
	Presentation of assumptions, methods and calculations used to predict leachate generation and sizing of the components of the leachate collection system.
Other Projects Listed in the Landfill GDP EIR	
No information provided.	--
Whispering Hills Planned Community	
Proposed Project/356 du: Moderate or high risk potential for expansive/erosive soils, seismic ground shaking, liquefaction and landslides.	Implementation of all recommendations in Leighton 2001 and the Third Party Geotechnical Review.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
Grading within a General Plan-designated ridgeline.	Incorporate design techniques into finish grading consistent with the requirement of the San Juan Capistrano General Plan and Land Use Code.
High School/193 du Alternative: Same as Proposed Project/356 du Impact.	Same as Proposed Project/356 du Mitigation Measures with additional subsequent design-level geotechnical studies.
Forster Ranch Specific Plan Amendment	
No information provided.	--
Marblehead Coastal	
Significant geotechnical impacts.	Recommendations in the geotechnical report to serve as definitive guide to specific site planning.
Pacific Point/San Juan Meadows	
Elimination of some prime agricultural soils.	Property is not presently in an agricultural use and loss of these soils is not considered significant.
High potential for soil failure.	Grading in accordance with geotechnical report.
	Preparation of geotechnical grading plan.
	Site stabilization prior to development.
	Measures to minimize erosion.
	Cut and fill slope gradient consistent with geotechnical investigation recommendations.
	Cut and fill ratio required to minimize the amount of imported/exported soil to be determined prior to issuance of a grading permit.
	Soils subject to settlement to be removed prior to fill placement or compacted in place.
	Conformance with the Uniform Building Code (UBC) and appropriate City codes and standards.
Potential seismic activity.	Analysis of potential seismic effects on site to be prepared and submitted.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
Significant impacts to landform alterations. Landslide and erosion hazards. Areas non-suitable for the support of compacted fill, roadway improvements, or structures. Location within seismically active region.	Prior to issuance of grading permits, a geotechnical report to be reviewed and approved. Engineering geologist to make recommendations to provide adequate vertical and lateral support for Antonio Parkway alignment.
Arroyo Trabuco Golf Course	
Reduction in the long term availability of sand and gravel resources.	No mitigation recommended, impact remains significant.
Dana Point Headlands	
Soil subsidence may result from inadequate preparation and compaction of soils prior construction of building and facility foundations.	Implementation of Project Condition 5-1 and any specific recommendations by geotechnical consultant regarding grading, soil compaction and site preparation will ensure that no potential impacts to facilities from soil subsidence. No mitigation required.
Potential impacts resulting from seismic induced ground shaking.	Implementation of Project Conditions 5-1, 5-2, 5-3 and 5-4 will reduce the potential impact of seismic induced ground shaking to below a level of significance. No mitigation required.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
The high, steep cliff faces that rim the Dana Point Headland present a relatively high potential for seismically induced rockfall and possibly local shallow landsliding of the bluff.	Implementation of Project Design Feature 5-1 and Project Conditions 5-1, 5-2, 5-3, 5-4, 5-5 and 5-6 will reduce the potential impact of seismically induced ground failure to below a level of significance. No mitigation required.
Local areas of loose sand are present on site and subject to liquefaction if these materials become submerged or exposed to strong ground shaking. Near surface soils and undocumented fill, present in some areas, may potentially be subject to seismically induced ground settlement.	Remove unconsolidated soil and unknown fill and replace with compacted fill and incorporate appropriate subsurface drainage system.
Strong ground shaking could potentially induce landslides.	Redistribute the mass/forces acting on the landslide, lower and maintain the groundwater/pore pressure at levels that enhance the stability conditions with the installation of subdrain system and remove and replace appropriate portions of the landslide deposits with higher strength compacted fill.
Graded areas may be subject to erosion during construction and operation.	Surficial stability/erosion potential will be evaluated by a geotechnical consultant. Best Management Practices will be employed during construction to minimize potential for erosion. Landscaping shall be installed particularly in the graded slopes.
The project may be subject to slope and/or foundation instability due to landslides; slope and/or foundation instability due to grading of cut slopes; slope and/or foundation instability due to the proposed grading of fill slopes; and slope and/or foundation instability due to compressible soils.	Temporary cut slopes shall not exceed a gradient of 1:1 and shall be reviewed by the Project Geotechnical Consultant during excavation. Temporary cut slopes associated with remedial grading in the Strand Beach area, landslide removals, shall not exceed a gradient of 1.5:1 and shall more typically maintain a maximum gradient of 2:1. Local groundwater or other geologic conditions may require flattening, dewatering or installation of appropriate slope reinforcement. Additional geotechnical review shall be performed as part of the final design process. The cut and fill slope at the southeastern perimeter of the Upper Headlands area shall be specifically evaluated for possible overexcavation and construction of a fill blanket and/or a "loffel-type" landscaping wall.
	Unreinforced fill slopes shall not exceed a gradient of 2:1. Proposed fill slopes steeper than 2:1, including MSE walls/slopes, shall require site specific reinforcement design. Appropriate subdrain provisions shall be incorporated into slope designs. Additional geotechnical review shall be performed as part of the final design process.
	All existing undocumented fill within the proposed development area shall be removed and replaced as compacted fill. Additional geotechnical review shall be performed as part of the final design process.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
Possible moisture/surface seepage related problems may occur. Possible slope and/or foundation instability may occur due to presence of uncontrolled groundwater levels/flows.	Install appropriate subdrains behind fill slopes and retaining walls as determined in the final geotechnical report.
Expansive soils exist on site that may produce slope and/or foundation instability.	Grading will strive to construct relatively uniform soil conditions in the upper portion of the building areas and incorporate recommended moisture levels. Moderate level of moisture shall be maintained in the fill/foundations soils to minimize future volume changes.
Saddleback Meadows	
Grading/Landform Alteration: Substantial grading, remedial grading and landform alteration. Seismic: Project site includes unstable landslides, expansive soils, bedrock, unconsolidated alluvium and groundwater.	Remedial grading plan to address slope stability and landslides. Project includes 36 mitigation measures addressing grading, compaction, fill material selection, fill shrinkage/subsidence, excavating conditions, fill expansion potential, utility trenching, surface drainage, sulphate content, engineering monitoring, slab specification, foundation specification, long term fill settlement and earthwork phasing.
Orange County Great Park (formerly MCAS El Toro)	
Exposure of people or structures to strong seismic ground shaking.	Prior to issuance of a building permits, the City of Irvine shall require that all development be designed in accordance with the seismic design provisions outlined in future proposed development geotechnical reports and specified in the latest City Building Codes.
Expansive soils may be present in localized areas within the project area.	Prior to issuance of a building permits, geotechnical reports shall be prepared for specific development projects.
The existing building on the former MCAS El Toro site my not have been constructed in a manner that is acceptable for its intended use. Temporary or permanent reuse of these facilities could expose people to greater seismic risks.	Prior to the issuance of building permits for the occupancy of any existing structure or occupancy of any existing if a building permit is not issued, a seismic evaluation of the structure including recommendations for seismic improvements required for compliance with current Building Codes.
Potential for soil erosion impacts. The presence of expansive soils could create risks to people or property.	Prior to issuance of grading permits, detailed geotechnical and hydrology reports shall be prepared prior to any development approval or grading activities.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in EIR #589.	If necessary, will be provided in Draft EIR #589.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
Saddle Creek/Saddle Crest	
Grading/Landform Alteration 1,311,946 cm (1,715,960 (cy) cut and 1,213,264 cm (1,586,890 cy) fill (combined Saddle Creek & Saddle Crest). The surplus of 26,369.5 cm (34,490 cy) of earthwork (after adjustment) is nominal, and therefore the project cut and fill is considered balanced. Maximum 7.3 m (24 ft) (Saddle Creek) and 9.1 m (30 ft) (Saddle Crest) manufactured slope heights for building sites and driveways serving one building site. Maximum 12.2 m (40 ft) and 22.9 m (75 ft) manufactured slopes for Saddle Crest and Saddle Creek, respectively, for roads or driveways accessing five or more dwelling units.	If locally unstable slopes are encountered they shall be stabilized by partial slope reconstructions (i.e., stability fills). Stabilization fill may also be required to accommodate landscaping where cut slopes expose bedrock.
Seismic Hazards Site situated in seismically active area (peak ground acceleration of maximum credible event of 0.27 g and a maximum probable event of 0.202g). Site underlain with potentially liquefiable materials. Potential for differential compaction.	Combination fill slopes (consisting of two steeped wall portions and 2:1 slope portions) shall be constructed in accordance with the recommendations presented in the project's Geotechnical Report.
Soil-Related Impacts Localized materials (e.g., Serrano Clay) with high to very high expansion potential. Surficial stability analyses indicate that the planned cut and fill slopes will generally have an adequate factor of safety against surficial failures.	A base key 4.6 m (15 ft) wide by 0.6 m (2 ft) in depth shall be excavated prior to construction of fill slopes to be placed directly on natural ground. Benching into existing firm materials shall be performed as the fill is placed. Where depths of removals are deeper than that of the recommended key, no key will be required.
Slope Stability Proposed cut and fill and combined fill/natural and cut/natural slopes will generally be stable against deep-seated slope failures.	Subdrains may be needed for some of the fill slopes.
Landslides and Movement Two landslides, one in Saddle Crest and one in Saddle Creek, will require total removal to achieve stability. Where steep natural slopes (gradient steeper than a 2:1 inclination) are above proposed development areas, there is a potential for debris flow impacts.	During construction, conventional compaction procedures will be necessary in order that compaction can be achieved out to the slope face. To reduce the potential for surficial failure, cohesionless materials should not be used for the near-slope face zone. If cohesionless materials are used, then it is recommended that fill slopes be covered with a protective covering.
	All cut and fill slopes more than 9.1 m (30 ft) in height shall be provided with drainage and terraces.
	Structural setbacks varying from 0 to 12.2 m (40 ft) from the daylight edge may be required for lots created by cutting above natural slopes.
	A structural setback from the toe of the slope may be required in some cases where development is proposed at the base of relatively steep natural slopes.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
	Additional mitigation measures may be necessary to minimize the damaging effects of debris flows.
	To reduce the potential for surficial failure, cohesionless materials should not be used for the near-slope face zone. If cohesionless materials are used, then it is recommended that fill slopes be covered with a protective covering.
	The relatively level area of proposed Pads 27 through 30 at the rear (southern portion) of the lots may not be utilized for permanent structures such as buildings or swimming pools.
	Temporary cut slope failures shall be reduced by a combination of the following: 1) keeping the time between cutting and filling operations to a minimum; 2) limiting the maximum length of a cut slope exposed at any one time; and 3) cutting at no steeper than a 1.5:1 inclination. For into-slope bedding conditions, based on ingrading observations, steeper backcuts may be allowed but should not be steeper than 1:1.
	Removals: Complete removals should be performed to a 1:1 projection of buildable/structural areas. Where complete removals cannot be performed to a 1:1 projection, then structures may be built on competent materials by use of a deep foundation system (i.e., piles).
	Lot Capping/Overexcavation: It is recommended that all cut and cut/fill transition pads exposing either unsuitable or dissimilar earth materials be overexcavated and capped with a minimum of 5 feet of compacted fill.
	Subdrainage: All canyon bottoms, reentrants, and stabilization/buttress fills shall be provided with subdrainage systems. Additional subdrains may be needed in areas of heavy seepage or deep fills. Subdrain outlets should be protected from blockage or damage.
	General Earthwork and Grading Specifications: Prior to commencement of grading operations, all vegetation and organic topsoil shall be cleared and disposed of off-site. Once removals are completed, areas that will receive fill must be scarified, moisture-conditioned, and recompacted to a minimum of 90 percent relative compaction.
	Surface Drainage: Surface runoffs shall be directed away from the tops of slopes and into storm drains. The potential for surficial failures or excessive erosion. Ponding of water on pads shall be avoided and roof gutters and area drains may be advisable.

Table 5.3-12 (continued)
Summary of Impacts for Cumulative Projects Related to Earth Resources

Summary of Impacts	Summary of Mitigation
	Expansion Potential: Removal and recompaction of highly expansive materials with relatively low expansive material to a depth of 1.5 m (5 ft) below pad grade is recommended. Additional testing should be performed at the completion of grading to further evaluate the corrosivity of the site's earth materials to concrete and metals.
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
No impacts.	Standard conditions regarding grading and geotechnical study.

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Geotechnical, Geology and Soils Technical Report (GeoPentech, 2003).

Table 5.3-13
Summary of Impacts for Cumulative Projects Related to Paleontological Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
No information provided.	--
Talega Valley Specific Plan (Champion Hills; The part of the Talega Development in the City of San Clemente).	
Potential loss of significant resources due to grading.	Certified paleontologist retained to observe operations and salvage exposed fossils.
	Materials exposed at the surface at locality RR 621 to be collected by certified paleontologist.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Low to moderate paleontological sensitivity.	In the event resources are found, a paleontologist is to be retained to investigate, determine significance and appropriate actions.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Known and potential paleontological resources could be disrupted or removed as a result of landfilling improvements and uses.	A paleontologist will prepare a Testing, Monitoring and Salvage Program for Paleontological Resources.
Other Projects Listed In The Landfill GDP EIR	
Significant impact to paleontological resources is expected.	Impacts are anticipated to be substantially mitigated, to a less than significant level.
Whispering Hills Planned Community	
Construction could potentially impact unknown paleontological resources.	A paleontologist will be onsite during all grading excavation operations and other significant ground disturbing activities.
	Paleontologist will be present at the pre-grading conference, establish procedures for resource surveillance and establish procedures for temporarily halting or redirecting work to permit sampling, identification an evaluation of fossil finds. If major resources are discovered which would halt grading for a while, the paleontologist shall report to the City and the project developer.
	If significant concentrations of fossils are encountered which cannot be collected during normal monitoring time, salvage operations shall be initiated and completed as quickly as feasible.
	A final Paleontological Report shall be prepared for submission, review and approval by the Planning Director.
Forster Ranch Specific Plan Amendment	
No information provided.	--
Marblehead Coastal	
Potential destruction of paleontological resources by grading and/or excavation of site.	Artifact and/or fossil preservation plans to be approved prior to issuance of rough grading permits.
Pacific Point/San Juan Meadows	
Probabilities of resources to exist are moderate to high.	Paleontological monitors for grading activities and reports on findings.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
High potential to contain significant non-renewable resources.	Paleontologist retained to conduct pregrading salvage and prepare catalogue of exposed resources and fossils.

Table 5.3-13 (continued)
Summary of Impacts for Cumulative Projects Related to Paleontological Resources

Summary of Impacts	Summary of Mitigation
Arroyo Trabuco Golf Course	
Grading and excavation could impact paleontological resources.	Paleontologist to be retained to observe grading activities, salvage and catalogue fossils as necessary and provide follow-up report.
Dana Point Headlands	
Grading may expose unknown subsurface sensitive archaeological resources. In addition, the San Onofre Breccia may be exposed during grading, resulting in potential impacts to the fossiliferous fine grained facies.	A qualified paleontologist shall be present at pregrade conferences, available to conduct random checks of graded areas and provide field assessment and recommendation for disposition should unique cultural materials be unearthed.
	Submit written evidence to City that a certified paleontologist has been retained to observed grading and to salvage and catalog resources, if necessary.
	If unique paleontological resources are unearthed, a paleontologist will submit a follow-up report including the period of inspection, cataloged and analysis if artifacts found and a repository listing for item.
Saddleback Meadows	
Grading and excavation could impact paleontological resources.	Paleontologist to be retained to observe grading activities, salvage and catalogue fossils as necessary and provide follow-up report.
Orange County Great Park (formerly MCAS El Toro)	
Earth moving activities have the potential to impact buried paleontological resources in the moderately to highly sensitive areas in the coastal plains and washes, northeast, northwest, and southern parts of PA 51.	Prior to issuance of grading permits, retain a qualified paleontologist, establish procedures for cultural and scientific resource surveillance and protect any resources discovered during the grading process.
Potential beds of Pleistocene terrestrial vertebrates may underlie PA 30.	
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in the EIR #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
SADDLE CREEK The following identified archaeological resources will be impacted: • CA-ORA-1519. Prehistoric lithic quarry • CA-ORA-1518H. Single-family residence, a privy, two sheds, and remains of a windmill water-pump within the 4S-Ranch (south) property. • CA-ORA-1517. A scatter of ground stone implements and chipped stone cores.	If avoidance of CA-ORA-1519, CA-ORA-1250, CA-ORA-1522, and CA-ORA-1517 is not possible, a Phase 2 evaluation of these sites shall be conducted. A collection shall be made of the diagnostic historic artifacts at CA-ORA-1518H. All recovered artifacts and confects shall be cataloged and analyzed, and special studies shall be undertaken if the recovered cultural remains warrant such studies.

Table 5.3-13 (continued)
Summary of Impacts for Cumulative Projects Related to Paleontological Resources

Summary of Impacts	Summary of Mitigation
• Primary No. 30-176627. Historical resources at the Watson Ranch, including a single-family residence, a barn, a storage shed, water tanks, and a free-standing barbecue. • Primary No. 30-176628. Historical resources, including a single-family residence, office structure, stone reservoir, barbecue, bunkhouse, barn and poultry and animal sheds and pens. CA-ORA-1517 and -1519 are prehistoric litchi sites. The extent of these resources or potential impact cannot be determined without subsurface excavation. Since the project site is in a highly sensitive area for prehistoric cultural resources, additional unidentified archaeological remains could be present and potentially impacted by the modified Proposed Project.	The milling stones and other art factual material on or in the wall at CA-ORA-1518H shall be collected and used for display or educational purposes.
SADDLE CREST The project will impact the following identified archaeological resources: • CA-ORA-1250. Scatter of ground stone and chipped litchi material next to an historic open mining trench. • CA-ORA-1522. A manor and dispersed scatter of litchi reduction material. • CA-ORA-1523H. An historic period mine (Serrano Clay Mine). • CA-ORA-1521H. An historic period mine (Shoppe Clay Mine). CA-ORA-1250 and -1522 are prehistoric litchi sites. The extent of these resources or potential impact cannot be determined without subsurface excavation. Since the project site is in a highly sensitive area for prehistoric cultural resources, additional unidentified archaeological remains could be present and potentially impacted by the modified Proposed Project. Both Serrano and Shoppe Clay Mines within the Saddle Crest project area would be disturbed by the proposed project.	
Scientific Resources: Each of the rock units underlying the project area has a high potential to produce significant fossils, both vertebrate and invertebrate. Excavations at the project site are likely to impact significant paleontology resources.	A qualified paleontologist shall be retained to monitor construction excavations that impact previously-undisturbed sediments of the Ladd, Williams, Silverado, Santiago, and Seeps Formations. If the paleontologist encounters any significant fossils, they shall be salvaged.

Table 5.3-13 (continued)
Summary of Impacts for Cumulative Projects Related to Paleontological Resources

Summary of Impacts	Summary of Mitigation
	The paleontologist will be allowed to divert or direct grading activity in the area of an exposed fossil to prevent the fossil from being destroyed.
	Because of the small nature of some fossils present in these rock units, it may be necessary for matrix samples to be collected for processing through fine mesh screens. The paleontologist will inspect samples of sediments regularly with a hand lens to determine if micro vertebrates are present, and if found, to collect appropriate matrix samples.
	Fossils shall be prepared to the point of identification, stabilized, mapped on a USGS topographic map, and catalogued before they are donated to their final repository.
Cumulative: Significant fossils recovered in the project vicinity and surrounding area have contributed to the understanding of the region's geologic and evolutionary history. Development of the proposed project in conjunction with future development projects in the area may result in the loss of unique and irreplaceable fossils.	
HONEYMAN RANCH PROPOSED RESIDENTIAL DEVLOPMENT - SAN JUAN CAPISTRANO	
No impact.	None required.

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Tale Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Sub region Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Paleontological Resources Technical Report (SWCA, 2003).

Table 5.3-14
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
Increased demand for fire protection services.	Provision of fire station site. Submittal of Fire Service. Implementation Plan prior to recordation of first tentative tract map.
	Compliance with Ordinance No. 3570.
	Provision of fire flow/water systems and fuel modifications.
Increased demand for water supply and service.	Technical report to establish water system for reservoirs and pump stations.
	Water system infrastructure improvements to occur concurrently with development.
	Feature plan to provide implementation of low-flush toilets, low-flush showers and faucets, and insulation of hot water lines.
	Implementation of interior and exterior water conservation measures the State Department of Water Resources recommends.
Generation of additional wastewater.	Feature Plan to include technical report to establish wastewater service system.
	Wastewater system infrastructure improvements to occur concurrently with development.
Generation of 72,658 pounds of solid waste per day at buildout.	Program to sort recyclable materials from other solid wastes to be developed and approved.
Increased demand for law enforcement.	Contribution to the funding of additional police protection, manpower and equipment, if necessary.
Increase in demand for electrical and gas services.	Provision of unobstructive access to and along transmission facilities for patrol, repair and maintenance.
	Review and approval of proposed grading, improvements or other encroachments into right-of-way.
	Drainage into right-of-way to be examined prior to grading plan permit issuance.
Existing school capacities exceeded.	Reserve future elementary school site. Proactive steps to insure financing is available for additional school facilities.
Deficient 2.781 park acres.	Provision of 18.281 acres of local parks.
Talega Valley Specific Plan (Champion Hills; The part of the Talega Development in the City of San Clemente)	
Increased demands for water consumption.	Provision of design features that conserve water.
	Explore feasibility in providing seasonal water storage in the Talega vicinity.
	Irrigation systems to be designed to use recycled water.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Increased demands on gas and electric.	Compliance with building standards in Title 24 of the California Administrative Code.
	Master infrastructure plan developed to provide concurrent installation and undergrounding of all utility lines.
	Continued unobstructed access to and along the San Diego Gas & Electric (SDG&E) transmission facilities.
Increased demand on police and fire protection services.	Site plans to incorporate defensible space design considerations.
	Planning stages providing for possible need to accommodate a police substation.
	Fire protection agreement to be entered into with the City and County.
	Participation in a fund of assessed fees from new developments to provide for public safety services.
	Compliance with City's Fire Code requirements.
	Review of development plans by San Clemente and the County Fire Departments.
Increase demands on school facilities.	Contribution of fees required to mitigate impacts to existing school facilities.
	Completion of proceedings for the purpose of providing school facilities deemed necessary for the tract prior to recordation of final tract map.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
Increase in demand for police and fire protection services.	Prior to commencement of any construction activities, coordination to ensure existing facilities are protected and any necessary expansion or relocation is planned and scheduled in consultation with the appropriate public agencies.
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
Potential disruption to existing gas and electric facilities during construction.	Prior approval of construction and grading plans to ensure facilities are protected.
Potential impacts to oil pipelines during construction.	Coordination with Santa Fe Pacific Pipeline Partners Inc., during final design regarding precise location of existing pipelines on site.
No wastewater facilities available to site.	A soils report and plans for all sewage to be submitted for review and approval.
	Results of percolation tests and a log of soil borings, performed and reported for review and approval.
	Each proposed individual sewage disposal system designed in accordance with Environmental Health's "On-Site Disposal System Guidelines."
	Additional soil percolation system to be constructed and connected.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Other Projects Listed in the Landfill GDP EIR	
No cumulative adverse impact on public services or public utilities.	No mitigation is required.
Whispering Hills Planned Community	
Proposed Project/356 DU OCFA response time to the project site exceeds County standards.	Fair share contribution towards the development of fire protection infrastructure currently being planned in the San Juan/Ortega corridor.
New development will increase fire dangers and the need for fire protection measures.	Standard OCFA conditions will be imposed.
Generation of additional students who will require accommodation within the CUSD.	Mitigation fee in accordance with state law.
Increased demand for public parkland by bringing new residents to the City.	Payment of in-lieu park fee.
Grading, construction and development design may affect access to and along the existing SDG&E 150' electrical transmission corridor.	"Letter of Permission for Grading" from SDG&E.
High School/193 DU Alternative Same as Proposed Project/356 DU Impact.	Same as Proposed Project/356 DU Mitigation Measure.
Same as Proposed Project/356 DU Impact.	Same as Proposed Project/356 DU Mitigation Measure with one additional Mitigation Measure: CUSD shall provide information to the Fire Chief in accordance with the provisions of Service Code 1.39 Hazardous Materials Review.
Generation of 108 students that will require accommodation within the CUSD.	Mitigation fee in accordance with state law.
Same as Proposed Project/356 DU Impact.	Same as Proposed Project/356 DU Mitigation Measure.
Includes an institutional land use that might involve handling or storage of hazardous materials.	Rezone or tentative tract map approval shall impose conditions of approval.
Same as Proposed Project/356 DU Impact.	Same as Proposed Project/356 DU Mitigation Measure.
Forster Ranch Specific Plan Amendment	
Increased demand for water.	Design features that conserve water.
Increased demand for police and fire protection services.	Prior to issuance of occupancy permits, evidence that law enforcement and fire protection services can be provided to the proposed land uses.
Increased demand for school system.	Fees to mitigate impacts on existing school facilities.
Impacts associated with underground installation of utility lines.	Installation of utility lines to occur concurrently.
Increased demands for gas and electric.	Structures to comply with building standards in Title 24 of the California Administrative Code.
	Provisions for unobstructed access to and along the SDG&E transmission facilities.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Marblehead Coastal	
Increased demand for fire protection and emergency medical services.	Demonstration that project complies with Chapter 15.48 of the San Clemente Municipal Code, pertaining to emergency response standards.
Pacific Point/San Juan Meadows	
Located in a high fire hazard area.	Fuel modification plan to be approved prior to issuance of grading permit.
Use of approximately one-half of the City's remaining capacity in the SERRA treatment plan.	Pay sewer capacity fees in amount of $3,165/dwelling unit.
	Design and construct all on site sewer facilities to City standards.
Demands on water supplies.	Participation in program established by CVWD to obtain and convey water for domestic use.
	Construction of water storage facility and all on site water facilities by applicant.
Generation of 115 K-12 students.	Applicant to work with CUSD to resolve any potential impacts on school facilities.
	Applicant to pay AB 2926 developer school fees.
	Potential elementary school site on the Mesa.
Deficit of 0.73 acre for park land dedication.	In-lieu fee of $206,000 per acre of park dedication. Final determination to be made by the City.
Increased demand for four million Kwh/year of electricity.	Project subject to Title 24 energy conservation requirements.
Two million cubic feet of natural gas consumed each month.	
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera Planned Community)	
Road through fire hazard area.	Prior to issuance of grading permit for road, fuel modification plan and program to be approved.
Increased demand for fire protection services and emergency response times.	Prior to approval of final tract map, project proponent to enter into agreement with County to contribute on a pro-rata share for provision of a fire station.
Increased demand for police services.	OCSCD and CHP consultation to obtain information on traffic accident resolution and crime prevention features.
	OCSCD and CHP coordination to ensure adequate level of police protection.
	Prior to issuance of building permits or recordation of final tract/parcel map, development fees to be paid on pro-rata basis.
Need for coordination with Southern California Edison (SCE) for future site specific development.	Prior to recordation of final tract maps, coordination needed with SDG&E in the design and implementation of future electrical services/facilities required and to ensure no notable disruptions to the on site transmission lines would occur.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Further evaluation of the proposed land use plan to determine what specific natural gas facilities would be required to accommodate future urban land use.	Prior to recordation of final tract maps coordination needed with SCG in the design/implementation of future gas services and facilities to ensure that no notable service disruptions to existing services would occur and that improvements are adequate to serve proposed project.
Generation of water demand of approximately 3.61 million gallons per day (mgd).	Prior to recordation of final tract maps, coordination with SMWD and the County to establish precise locations for water supply services and facilities.
Requirement of realignment of a portion of the existing access road that serves the Chiquita WRP to avoid two 14-inch water reclamation lines.	Final road design plans to be developed taking into consideration the implementation of a proposed force main/trunk sewer proposed to extend through the area.
Generation of approximately 3.06 mgd of wastewater.	Coordination with SWMD in the establishment of precise locations for wastewater facilities.
Generation of approximately 4,389 students.	Coordination with CUSD to ensure adequate educational facilities are implemented.
Need for Mello Roos Community Facilities District (MRCFD) to facilitate additional funding to construct future educational facilities.	In coordination with CUSD, evaluate need for formation of a MRCFD and use of AB 2926 and AB 181 school fees.
Generation of approximately 57.63 tons of solid waste per day.	Measures to reduce amount of refuse to be developed in accordance with waste reduction requirements of California Integrated Waste Management Act of 1989.
Potential impact on library services.	Coordination with OCPL to ensure adequate library facilities are available.
	Prior to recordation of a final tract/parcel map, appropriate developer fees for needed library facilities to be paid.
Arroyo Trabuco Golf Course	
No significant impacts on public services and utilities.	No mitigation is required.
Dana Point Headlands	
Potential fire hazard could exist between development and the adjacent natural open space area.	Implementation of Project Design Features will reduce the potential for fire hazards. No mitigation required.
Minor increase in fire protection and emergency medical needs provided by OCFA.	Implementation of Project Design Features and Project Conditions will ensure adequate fire protections and emergency medical service. No mitigation required.
The resident and visitor populations will contribute incrementally to any evacuation from the City.	Implementation of Project Design Features and Project Conditions will reduce potential emergence access impacts. No mitigation required.
The project is expected to generate approximately 94 new students within the School District.	The developer shall pay school fees prior to issuance of building permits.
The project is expected to generate approximately 94 new students within the School District.	The developer shall pay school fees prior to issuance of building permits.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Contribute to cumulative local and regional demand for utilities; however, each provider of these services confirmed that these cumulative demands can be accommodated without significant impacts.	With implementation of Project Design Features and Project Conditions impacts will be less than significant. No mitigation required.
Saddleback Meadows	
Increased demand for water.	Design features that conserve water. Mitigation measure to define and provide sub-area water provision improvements.
Impacts on fire protection services are less than significant.	No mitigation is required.
Increased demand for police protection services would not be significant with the implementation of Standard conditions for law enforcement provision.	No mitigation is required.
Increased demand for school system.	Fee agreement with the Saddleback Valley Unified School District to mitigate impacts on existing school facilities.
Increased need for solid waste services.	County Standard conditions would reduce any impacts to less than significant. No mitigation is required.
Increased demands for gas and electric.	Structures to comply with building standards in Title 24 of the California Code of Regulations and County standards.
Orange County Great Park (formerly MCAS El Toro)	
Possible construction and operation of a new police substation.	Utilize existing City of Irvine standards.
Construction and operation of new fire protection facilities.	Utilize existing City of Irvine standards.
Construction and operation of new recreational facilities	Utilize existing City of Irvine standards.
Construction and operation of new school facilities.	Utilize existing City of Irvine standards.
Construction and operation of new potable water facilities.	Mitigation measures required for any significant impacts identified in Sections 5.1-5.13 of the EIR apply to future construction and operation of potable water facilities within the project area. Project specific mitigation measures will be also required. These mitigation measures will be identified and implemented at the appropriate time.
Construction and operation of new recycled water facilities.	Mitigation measures required for any significant impacts identified in Sections 5.1-5.13 of the EIR apply to future construction and operation of recycled water facilities within the project area. Project specific mitigation measures will be also required. These mitigation measures will be identified and implemented at the appropriate time.

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Construction and operation of new wastewater facilities.	Mitigation measures required for any significant impacts identified in Sections 5.1-5.13 of the EIR apply to future construction and operation of wastewater facilities within the project area. Project specific mitigation measures will be also required. These mitigation measures will be identified and implemented at the appropriate time.
The project site may contain solid waste unsuitable for recycling or reuse. In addition, it will generate solid was from demolition, operation and landscape maintenance.	A technical evaluation shall be performed by a qualified environmental consultant. If the technical evaluation determines that the material is contaminated and prohibited from being recycled, further evaluation shall be conducted to determine other feasible methods to divert material from landfills.
Construction and operation of new energy and communication facilities.	Mitigation measures required for any significant impacts identified in Sections 5.1-5.13 of the EIR apply to future construction and operation of potable water facilities within the project area. Project specific mitigation measures will be also required. These mitigation measures will be identified and implemented at the appropriate time.
Rancho Mission Viejo	
Potentially significant impact. Will be analyzed in the Draft Environmental Impact Report (EIR) #589.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
Public Services *Fire Protection and Emergency Services* - The introduction of 167 single-family homes and new residents will increase the level of fire protection and emergency services required for the project area. - Station 31 located in Mission Viejo provides the closest Advanced Life Support Paramedic Unit. The estimated response time from this station to the entrance of 4S Ranch is nine minutes (OCFA's criteria for paramedic units to arrive on scene is 10 minutes). However, once inside the project site, due to steep grades, the response time will increase to portions of the interior project and the OCFA standard will be exceeded.	Prior to the issuance of certificates of use or occupancy, the project applicant or developer shall provide evidence of disclosure to prospective buyers that may be outside of the response time standards of the OCFA. Unobstructed access to Santiago Truck Trail within the Saddle Creek project boundaries will be maintained throughout the construction and on-going occupation of the project. The condition to maintain this access during construction activities will be set forth in the construction vehicle routing plan and program to be submitted for approval by the County prior to issuance of grading permits. Provision of unobstructed access to this trail subsequent to project development will be included as a condition to be incorporated into the Homeowners Association's CC&Rs for the development.
Police Protection. Implementation of the proposed project will introduce structures and residents to the project site, and increase the level of traffic in the project vicinity. The additional activity will generate an incremental increase in service demand for police protection.	

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
School Facilities. Implementation of the proposed project will generate 92 students but will not require additional portable classrooms in order to meet the Class Size Reduction (CSR) set by the State and District, and will not result in a need for an expansion of existing or proposed facilities.	
Libraries. The proposed project will not result in a need for an expansion of existing or proposed facilities.	
Solid Waste. Implementation of the proposed project will generate approximately 105 tons of solid waste per year, with refuse transported to one of the three active landfills in Orange County.	
Cumulative: *Fire Protection and Emergency Services.* The Project will combine with anticipated countywide growth to cumulatively impact fire protection and emergency medical services. *Police Protection.* The Project will combine with other development to cumulatively increase police protection service requirements. New development will contribute to County tax revenues that will assist in financing additional facilities and personnel as required to meet additional police protection requirements in the County. *Schools.* Students generated by the Project will impact an already over-crowded school system. The proposed project in combination with District-wide growth will cumulatively impact the ability of SVUSD to adequately provide school services. *Libraries.* Residents generated by the Project will combine with areawide growth to cumulatively impact library services. *Solid Waste.* Implementation of the proposed project will incrementally increase solid waste disposal service requirements and cumulatively impact landfill capacity.	
Utilities *Electricity.* The proposed project will not result in an increase in demand for electrical services that cannot be met with existing resources.	No mitigation measures necessary
Natural Gas. The proposed project will not result in an increase in demand for natural gas services that cannot be met with existing resources.	

Table 5.3-14 (continued)
Summary of Impacts for Cumulative Projects Related to Public Services and Utilities

Summary of Impacts	Summary of Mitigation
Water. Trabuco Canyon Water District (TCWD) has indicated that the proposed project's domestic water demands can be met. Domestic water requirements will total approximately 558 gallons per day (gpd) per residence, and irrigation requirements will total approximately 640 gpd per residence. Water storage is anticipated to be adequate to serve Saddle Creek and Saddle Crest.	
Wastewater - The combined total wastewater generation for the modified Proposed Project is approximately 46,750 gpd (35,250 for Saddle Creek and 11,500 gpd for Saddle Crest). - System improvements will include extending an 8-inch diameter gravity sewer line from Cook's Corner up Live Oak Canyon Road to Saddle Creek entrances on either side of Live Oak Canyon Road.	
Cable. Cox Communications has indicated that it will be able to provide cable television service to the proposed development.	
Communications Pacific Bell has indicated that it will be able to provide telephone service to the proposed development.	
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
No impacts noted on any services or utility providers except for generation of solid waste during demolition activities.	Mitigation measure regarding recycling building materials.

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.
1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units or OCP-2000 projections or 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton

Public Services and Utilities Technical Report (P&D Consultants, 2003).

Table 5.3-15
Summary of Impacts for Cumulative Projects Related to Recreational Resources

Summary of Impacts	Summary of Mitigation
Rolling Hills Planned Community (The part of the Talega Development in Unincorporated Orange County)	
Proposed project does not provide sufficient parkland acreage consistent with County regulations.	Project must provide for 7.4 ha (18.3 ac) of local parks.
Talega Valley Specific Plan (Champion Hills; The part of the Talega Development in the City of San Clemente).	
7.37 ha (18.21 ac) of park are required by the County's local park code.	A Comprehensive Local Park Implementation Plan must be submitted to meet local park requirements.
Chiquita Canyon High School (Now referred to as Tesoro High School)	
No information provided.	--
Prima Deshecha Sanitary Landfill General Development Plan (GDP)	
The future alignment for La Pate Avenue will be intersected at grade by hiking and riding trails until La Pate Avenue is constructed.	The crossings will be consistent with County standards, with signing and pavement markings to keep vehicular and trail users safe.
	On street signing and pavement marking at this location to be removed and trail redesigned to direct trail users to the grade separate culvert.
The La Pate Avenue at grade trail crossing will be converted to a grade separated culvert.	The grade separated culvert must be constructed consistent with the County of Orange Regional Riding and Hiking Design Manual trail design standards.
Proposed recreational facilities could be visible on key ridgelines.	All permanent recreation facilities must be located below these key ridgelines such that they are not visible from surrounding cities.
Other Projects Listed In The Landfill GDP EIR	
These projects are not anticipated to have impacts on recreational resources.	No mitigation is required.
Whispering Hills Planned Community	
No information provided.	--
Forster Ranch Specific Plan Amendment	
No information provided.	--
Marblehead Coastal	
Possibly significant increase in demand for parks and recreational facilities.	Payment of in-lieu park fees consistent with the City's Park Acquisition and Development Code.
Pacific Point/San Juan Meadows	
2.11 ha (5.23 ac) of parkland dedication is required.	A 1.8 ha (4.5 ac) public park is proposed along Camino Las Rambles. The City will determine the amount of park in-lieu fees which may be required to meet the remaining park requirement.
Antonio Parkway Roadway Alignment and Land Use Plan (Ladera PC)	
Land use plan may provide O'Neill Regional Park an opportunity to expand.	No mitigation is required.
Project provides 647.5 ha (1,600 ac) of open space where Arroyo Trabuco and San Juan Creek trails are proposed to be established.	During preparation of Area Plans, open space and a trail network must be addressed by the project proponent.
About 28.7 ha (71 ac) of local parkland are required according to MPLP standards.	Implementation plans for local parkland must be proposed before recordation of tentative tract maps.
Arroyo Trabuco Golf Course	
No information provided.	This golf course is a recreation resource.

Table 5.3-15 (continued)
Summary of Impacts for Cumulative Projects Related to Recreational Resources

Summary of Impacts	Summary of Mitigation
Dana Point Headlands	
Result in a beneficial impact to recreation resources in the area by designating approximately 25.1 ha (62 ac) for public recreation and conservation open space.	No mitigation required
Additional access ways to Strand Beach and other proposed public recreational areas may increase the demand for additional public parking adjacent to these access ways.	Parking and circulation will be adequate with implementation of Project Design Features and Project Conditions. No mitigation required.
The project may result in the temporary rerouting of access to Strand Beach during reconstruction of the north access to Strand Beach.	Prior to issuance of any grading permits, the developer shall prepare a plan for continuous public access to Strand Beach during periods of construction operations utilizing alternative pathways, if necessary.
Saddleback Meadows	
0.81 ha (1.9 ac) local park requirement and temporary rerouting of Alison Creek Bikeway.	Construction and dedication of sections of two master planned trails, equestrian staging and rest area. Coordination of Bikeway rerouting plan.
Orange County Great Park (formerly MCAS El Toro)	
Construction and operation of new recreational facilities	Utilize existing City of Irvine standards.
Rancho Mission Viejo	
Physical impacts of the proposed parks will be analyzed in Draft EIR #589. The proposed acreage of parkland exceeds requirements.	If necessary, will be provided in Draft EIR #589.
Saddle Creek/Saddle Crest	
Cleveland National Forest (CNF): Wildlife corridors traverse the CNF in proximity to the eastern boundary of Saddle Creek and north/northwestern boundary of Saddle Crest. Potential project impacts to wildlife movement will be mitigated with a minimum 15.24 m (50 ft) setback to structures, fencing, and exterior lighting. No grading or fuel modification will encroach into the CNF.	No mitigation measures necessary.
Whiting Ranch Regional Wilderness Park: A portion of the project would be visible from a high point within Whiting Ranch, and is representative of potential, although likely worst-case, views. At its closest point, Saddle Crest is located approximately 1,066.8 m (3,500 ft) from this selected viewpoint. The closest, potentially visible developed area of Saddle Creek from this viewpoint would be approximately 2.3 km (1.4 mi). At this distance, although possibly visible, the visual impact of the development would be minimal.	
O'Neill Regional Park: Due to distance and intervening development and topography, the modified Proposed Project will not adversely impact this park.	

Table 5.3-15 (continued)
Summary of Impacts for Cumulative Projects Related to Recreational Resources

Summary of Impacts	Summary of Mitigation
Cumulative: The proposed project will result in the cumulative loss of open space within the F/TSP area and Orange County. The development, however, will be consistent with the F/TSP and will retain 70 percent of the site in open space. Moreover, the project is within the phasing parameters identified in the F/TSP for development within the planning area.	
Honeyman Ranch Proposed Residential Development - San Juan Capistrano	
No impact.	Standard compliance with Quimby Act.

Note: The following projects did not have any environmental documentation available for evaluation at the time of preparation of this report and were not included in the table.

1. Talega Development Feature Plan.
2. Rancho Mission Viejo (RMV) Development Entitlements, General Plan Amendment (GPA)/Zone Change (ZC).
3. Rancho Mission Viejo (RMV) proposed development plans, de facto zoning of 600 residential units and OCP-2000 projections of 21,000 residential units for RMV.
4. South Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).
5. MCB Camp Pendleton.

Recreation Resources Technical Report (P&D Consultants, 2003).

Table 5.4-1
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
Traffic	Continued peak hour deficiencies and congestion in the study area.	Continued peak hour deficiencies and congestion at increased number of locations.	Fair share contributions on a project by project basis.	Beneficial effects in numbers of deficiencies and limited indirect adverse impacts under the SOCTIIP build Alternatives. Greatest number of deficiencies occur under the No Action Alternatives.
Land Use	Continued development of vacant and agricultural land in urban and suburban uses.	Greater amount of urban and suburban land uses in the study area.	Protection of land in open space; landscaping and visual mitigation; planning/zoning setbacks and other standards.	Cumulative effect related to the conversion of vacant and undeveloped land to urban and suburban uses under the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative projects in the study area. Not adverse because the land uses are compatible with the applicable local plans.
Agricultural Resources	Continued conversion of agricultural land for urban and suburban uses.	Loss of agricultural resources to urban and suburban uses.	None available.	Cumulative adverse effect of the SOCTIIP build Alternatives, the background MPAH and land use in the No Action Alternatives and the other cumulative projects in the study area related to the conversion of agricultural resources to urban and suburban uses.

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
Socioeconomics and Environmental Justice	Continued growth and development in South Orange County.	Greater amount of urban and suburban land uses in the study area.	None required except for compensation for the acquisition of property under the SOCTIIP build Alternatives.	No cumulative adverse effects of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative projects in the study area related to residential uses, community cohesion, economic impacts or Environmental Justice.
Pedestrian and Bicycle Facilities	Continued development of regional riding and hiking trails; occasional creation of barriers or adverse effects on the continuity of the trail system.	Development of trail systems throughout South Orange County, as part of urban and suburban uses and recreation uses. Occasional permanent barriers to the continuity of the trail system.	Provision of trails as a part of development; provision of trail crossings as appropriate as part of the SOCTIIP build Alternatives.	No cumulative adverse impacts of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative projects in the study area on pedestrian and bicycle facilities.
Noise	Continued development of urban and suburban land uses including both noise sensitive uses (residential, etc.) and additional noise sources throughout South Orange County including traffic and noise sources at land uses such as commercial, industrial and residential uses.	Implementation of noise sensitive lands uses and continued generation of noise in South Orange County as a result of various land uses.	Provision of soundwalls and other noise attenuation features for roads and noise sensitive land uses.	Future noise levels at residential uses along some road segments in South Orange County may exceed 65 CNEL, but the SOCTIIP build Alternatives do not perceptibly increase noise levels at these residences. Therefore, the SOCTIIP build Alternatives will not contribute to cumulative adverse noise impacts. The No Action Alternatives will

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
				not result in SOCTIIP related noise and, therefore, will not contribute to cumulative noise impacts.
Floodplains, Waterways and Hydrologic Systems, and Water Quality	Continued development of urban and suburban uses in watersheds throughout South Orange County including modification of some water courses to accommodate these land uses.	Potential for increases in discharges, runoff volumes and velocities, erosion, sedimentation, degradation of water quality and impacts to groundwater levels and quality. Potential changes to watercourses to accommodate development.	Construction management to reduce erosion and runoff from construction areas; design features and compliance with NPDES and other requirements; operations practices to reduce physical effects on water resources including controlling erosion, runoff, water quality, etc.	Potential cumulative adverse effects on water quality substantially mitigated through construction, design and operations features and practices. Therefore, the SOCTIIP build Alternatives, the No Action Alternatives and the other cumulative projects will not contribute to cumulative adverse impacts related to floodplains, hydrology, waterways and water quality.
Biological Resources	Continued adverse impacts on biological resources as a result of existing and planned development.	Potential direct impacts associated with habitat loss and fragmentation. Potential for indirect impacts associated with human intrusion, invasive species and noise impacts on wildlife.	Extensive mitigation measures to avoid and minimize impacts on plant communities, wildlife, sensitive species and critical habitat designations.	Cumulatively substantial adverse impacts as a result of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and other cumulative projects. Impacts to sensitive plant communities, sensitive plant and wildlife species, and wildlife corridors/habitat fragmentation.
Wild and Scenic Rivers	None in the study area.	--	--	None.
Coastal Barriers	None in the study area.	--	--	None.

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
Coastal Zone	Refer to trends for biological, cultural, paleontological and visual resources.	--	--	--
Historic and Archeological Preservation	Continued degradation and permanent loss of resources due to development.	Additional loss of resources due to urban and suburban development.	Monitoring during construction, documentation of resources, resources management programs.	Cumulative adverse impact on cultural resources as a result of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and other development in South Orange County.
Hazardous Materials and Hazardous Waste Sites	Continued use, handling, storage and transport of hazardous materials in South Orange County during construction and operation of existing land uses. Continued generation of hazardous wastes and risks of spills and hazardous materials accidents.	Continued use, handling, storage and transport of hazardous materials in South Orange County associated with construction and operation of approved and future land uses. Continued generation of hazardous wastes and risks of spills and hazardous materials accidents.	Compliance with applicable federal, state and local regulations; protection of existing utilities facilities (pipelines); compliance with landfilling regulations and practices; vector control.	No cumulative adverse impacts as a result of the SOCTIIP build and No Action Alternatives and the other cumulative projects in the study area related to hazardous materials and hazardous waste sites.
Visual Resources	Continued changes in views from undeveloped, vacant and open space views to views of urban and suburban land uses. Increasing lighting in study area.	Increased views of urban and suburban land uses and decreased views of undeveloped, vacant and open space lands. Increased areas with artificial lighting.	Landscaping, grading, design guidelines, lighting designs and controls, setbacks,	The cumulative projects, the SOCTIIP build Alternatives and the background MPAH and land use assumptions in the No Action Alternatives will all contribute to cumulative adverse visual impacts in south Orange County through changes in views of areas from

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
				undeveloped and vacant to views of urban and suburban land uses.
Energy	Continued use of energy resources for construction and operation of existing urban and suburban land uses in the study area.	Increased use of energy resources in the long term for the added urban and suburban land uses in the study area.	None identified.	The SOCTIIP built and No Action Alternatives will result in either no substantial difference in energy use or a beneficial reduction in energy use for transportation. The other cumulative projects would result in increased energy use in the long term which is assumed to contribute to a cumulative adverse impact related to energy use in the study area.
Earth Resources	No substantial existing conditions related to earth resources.	Grading, temporary effects on groundwater, potential impacts to springs, excess soil disposal, increased impermeable surfaces.	Grading and construction practices and standards.	The SOCTIIP build and No Action Alternatives and other cumulative projects in the study area will not contribute to cumulative adverse impacts related to earth resources.
Military Resources	Past encroachments (direct: I-5, NCTD facility) and indirect (development adjacent to the Camp Pendleton boundary) which adversely affect the training Mission.	Potential for indirect encroachment as part of the Ranch Plan on RMV associated with residential uses in Planning Area 8.	None identified at this time.	The SOCTIIP build Alternatives which cross SOSB encroach onto the Base. These Alternatives and the proposed RMV development plan for PA 8 would contribute to a cumulative adverse encroachment impact on Camp Pendleton. The other

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
				SOCTIIP build and No Action Alternatives and the other cumulative projects would not contribute to cumulative adverse impacts on Camp Pendleton.
Mineral Resources	Continued reduction of active mineral extraction operations and facilities in Orange County.	Potential for reduced extraction operations as a result of the SOCTIIP build Alternatives; potential reduction in access to sand and gravel resources on RMV under the proposed Ranch Plan.	None defined.	The SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative projects in the study area would result in a cumulative adverse impact on mineral resources and extraction opportunities in the study area.
Paleontological Resources	Continued adverse impacts on paleontological resources through removal as a result of urban and suburban development in South Orange County.	Continued loss of paleontological resources as a result of continued urban and suburban development in south Orange County.	Monitoring, documentation of recovered resources, protection in place.	The SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative projects in the study area would result in a cumulative adverse impact on paleontological resources in the study area.
Public Services and Utilities	Continued demand for public services and utilities in the study area, based on urban and suburban development in South Orange County.	Continued demand for public services and utilities to support additional urban and suburban land uses developed in the study area.	Provision of land and funds for facilities and services provided to support development; project features to reduce the demand for utilities.	The SOCTIIP build Alternatives and the other cumulative projects would not result in cumulative adverse impacts related to fire and emergency medical

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
				services; law enforcement services; public facilities; and utilities. The background MPAH and land use assumptions under the No Action Alternatives could contribute to cumulative adverse impacts related to public services. Some of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives and the other cumulative project in the study area would result in cumulative adverse impacts related to land fill capacity and lifespan at Prima Deshecha Sanitary Landfill; and schools.

Table 5.4-1 (continued)
Summary of Cumulative Projects and Potential Cumulative Impacts

Environmental Parameter	Existing Conditions and Trends	Status at Completion of Cumulative Projects	Project Level Mitigation	Cumulative Environmental Effects of the Projects and the SOCTIIP
Recreation Resources	Continued demand for recreation facilities and resources by residents in suburban and urban areas in South Orange County.	Increased demand for recreation facilities and resources by residents of new urban and suburban development in South Orange County.	Provision of parks and/or funding for parks and recreation resources as conditions of development for residential uses.	All SOCTIIP build Alternatives will result in adverse impacts on recreation resources which will contribute to cumulative adverse impacts on recreation resources. The other cumulative projects and the background MPAH and land use assumptions under the No Action Alternatives in the study area will provide for recreation resources and facilities consistent with applicable local requirements and project conditions of approval.

SECTION 6.0
GROWTH INDUCING IMPACTS

6.1 INTRODUCTION

This Section assesses the potential growth inducing effects of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) Build and No Action Alternatives. The evaluation of the potential growth-inducing effects of the Preferred Alternative is based on the same data as the A7C-FEC-M-Initial Alternative because project modifications do not substantially alter the location of the alignment or potential project impacts. The Preferred Alternative is limited to a maximum of six general purpose lanes.

6.2 DEFINITION OF GROWTH INDUCEMENT

This analysis considered the following definitions of growth inducement:

California Environmental Quality Act (CEQA) Definition (Section 151262(d) of the CEQA Guidelines). The CEQA Guidelines set out the following requirements for discussion of growth inducing impacts:

> "Discuss 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. Included in this are projects which would remove obstacles to population growth...Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in an area is necessarily beneficial, detrimental or of little significance to the environment."

40 Code of Federal Regulations (CFR) 1508.8 (Effects), part (b). This Section discusses growth inducing effects as:

> "Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."

FHWA Technical Advisory (TA) T6640.8A. This TA does not specifically define growth inducing effects. However, as part of the consideration of social impacts of a proposed project, the TA states:

> "Changes in the neighborhoods or community cohesion for the various social groups as a result of the proposed action. These changes may be beneficial or adverse, and may include splitting neighborhoods, isolating a portion of a neighborhood or an ethnic group, generating new development, changing property values, or separating residents from community facilities, etc."

Caltrans Environmental Handbook, Volume 4 "Community Impact Assessment" (CIA, 1997). This Handbook defines growth inducement as "...the relationship between the proposed transportation project and growth within an area." Growth inducing effects can occur if the project either facilitates planned growth or induces unplanned growth.

Growth inducement can take several forms. A project can remove barriers, provide access or eliminate other constraints which encourage growth that has been approved and anticipated through the General

Plan process or under adopted growth projections. This planned growth would be reflected in land use plans that have been developed and approved with the underlying assumption that an adequate supporting transportation network would be constructed. Infrastructure improvements that support this planned growth can be described as accommodating or facilitating growth. In addition, a project can remove barriers, provide new access or otherwise encourage growth which is not assumed as planned growth in the General Plans or adopted growth projections for the affected local jurisdictions. This could include areas which are currently designated for open space, agricultural or other similar non-urban land uses which, because of the improved access provided by the project, would experience pressure to develop urban uses or develop at a higher level of intensity than originally anticipated.

Within the context of these definitions and consistent with the Caltrans CIA guidelines, a conclusion must be made regarding the potential growth inducing effects of each SOCTIIP Alternative. Caltrans has determined that generally one of the following conclusions will apply (CIA, 1997, page 93):

Project will not affect growth: This conclusion can be made when no growth is expected or when the project would yield no advantages that would have effects on developers' decisions.

Cannot determine the effect on growth: This conclusion can be appropriate when any conclusion about the likely course of growth would be speculative.

Hasten or slow growth, intensify growth or shift growth from elsewhere in the region: One of these conclusions can be made when developers and the local planning agency/agencies are expected to modify their course or timing of development because of the project. The terms "support growth," "contribute to growth," "facilitate growth" or "respond to growth" are less precise ways of making this conclusion.

Induce growth: This conclusion can be made when a larger amount of development would be expected to occur (area wide) during or after the project's construction than otherwise would have been expected in the foreseeable future.

6.3 METHODOLOGY FOR GROWTH INDUCING IMPACTS ANALYSIS

The growth inducing impacts analysis was based on the established methodology and approach in the Caltrans CIA guidelines. The potential for the SOCTIIP Alternatives to result in growth inducing impacts was assessed based on the following key steps:

- Define growth inducing impacts.
- Describe the role of local agencies in land use planning and their role in directing future growth.
- Describe the factors that affect future growth in the study area.
- Generally identify areas of approved and planned development and areas not currently planned for development in the study area.
- Assess the potential for the SOCTIIP Alternatives to result in growth inducing impacts.
- Identify a specific conclusion regarding the potential growth inducing impacts of each SOCTIIP Alternative.

Four questions were used to assess the potential for the SOCTIIP Alternatives to result in growth inducing impacts:

Question 1: Would the Alternative influence the overall rate of growth (that is, the speed at which growth occurs) in south Orange County or north San Diego County?

Question 2: Would the Alternative influence the location of growth in south Orange County or north San Diego County?

Question 3: Would the Alternative influence the amount of growth in south Orange County or north San Diego County?

Question 4: Would the Alternative influence the type of growth in south Orange County or north San Diego County?

Several factors were considered when answering these questions:

- Existing or anticipated pressure for growth and development (economic and market conditions) without the SOCTIIP Alternatives.
- Potential growth inducing impacts associated with existing and/or planned development in south Orange County and north San Diego County.
- Overall local and subregional economic conditions related to unemployment, demand for housing, overall population growth, growth in the local economy and other factors.
- Local and County approvals for development absent commitments to the SOCTIIP Alternatives and other major transportation infrastructure improvements.
- Relationship of land use planning approvals/authorities and the SOCTIIP Alternatives.

The assessment of whether each Alternative results in growth inducing impacts considered the following:

- How each SOCTIIP Alternative, including the No Action Alternatives, may affect the rate, location and/or amount of growth.
- Whether the effects of the SOCTIIP Alternatives would be considered growth inducing.
- Whether those changes in rate, location and amount of growth would occur under the No Action Alternatives as well as under build Alternatives.

One of the following conclusions, based on the Caltrans CIA guidance, was drawn regarding the potential growth inducing impacts of each SOCTIIP Alternative:

- Project will not affect growth.
- Cannot determine the effect on growth.
- Project hastens or slows growth, intensifies growth or shifts growth from elsewhere in the region.
- Project induces growth.

6.4 FACTORS AFFECTING GROWTH

6.4.1 TRANSPORTATION IMPROVEMENTS

The Caltrans CIA guidelines make several points relevant to the SOCTIIP and its potential for growth inducing effects:

> "It is important to realize that any single highway investment is but a part of a much larger urban transportation system. Highway investments are marginal; they add some increment of accessibility to the area. In an area that already enjoys a high level of accessibility, we would not expect a new investment to have much of an impact. In an area with limited accessibility, the same investment would be expected to have a much larger impact. Most U.S. urban areas fall into the former category, however."

The Handbook goes on to say:

> "...recent studies show no consistent link between highway improvements and changes in land use. Instead...land-use impacts were largely dependent on four factors: overall local economic conditions; access to medium-income or high-income residential areas; availability of developable land; and favorable zoning policies."

This view is supported by a study prepared for the National Cooperative Highway Research Program (NCHRP, Land Use Impacts of Transportation: A Guidebook, Parsons Brinckerhoff Quade & Douglas, Inc., May 1998), which states:

> "While there is a basic understanding of transportation and land use relationships, the outcomes of specific plans or policies are difficult to predict. The main reason for this uncertainty is the complex, dynamic nature of the urban development process."

Major factors citied as contributing to the uncertainty are local conditions, the incremental, long-term process of land use change, random events and flexibility of travel demand.

The NCHRP study further states:

> "The magnitude of changes in land use depend upon (a) how much accessibility is improved, (b) the relative attractiveness of the locations near the interchange, and c) the real estate market in the region....the largest magnitude impacts are expected from new facilities in fast growing areas."

The East Orange General Plan Amendment (GPA) Plan illustrates this conclusion. This Irvine Company project is in the east part of the City of Orange and was originally approved for 10,400 dwelling units (dus). The original GPA was prepared and approved prior to development of the Eastern Transportation Corridor (ETC) and Foothill Transportation Corridor-North (FTC-N) but did anticipate the implementation of these transportation facilities, which pass through the west and south parts of the site. However, in spite of completion of the ETC and FTC-N, the Irvine Company recently announced a 75 percent reduction in the number of dus in East Orange from 12,000 to 4,000 dus (Los Angeles Times, April 12, 2003). Therefore, in this case, the presence of two major transportation facilities that enhanced accessibility to the project site and land uses did not result in growth inducement beyond the level expected for the area.

Ranch Mission Viejo (RMV) presents another example of the complexity of this relationship. The Orange County Projections-2000 (OCP-2000) assumed the RMV property would be developed with 21,000 dus while the existing General Plan designation for this site would allow approximately 6,200 dus. At the time the Draft EIS/SEIR was being prepared, t~~T~~he RMV development plan proposesd 14,000 dus (and related retail and business uses), which is substantially higher than what could occur under the current General Plan designation, but considerably lower than the number of dus assumed in OCP-2000. The Orange County Board of Supervisors approved the Ranch Plan with a residential development intensity of 14,000 units in November 2004 as well as urban activity center, neighborhood retail and business park uses. As discussed below, two potential circulation components have been submitted with the

development plan: one incorporating a SOCTIIP corridor and one without any SOCTIIP corridor improvements. The overall distribution and intensity of land use is the same under both circulation system assumptions. Therefore, while access improvements are clearly necessary to allow development of the RMV property, it appears that factors other than the SOCTIIP, such as market considerations, issues related to the development of the Natural Communities Conservation Plan (NCCP) for this part of Orange County, etc., are driving the planned intensity and distribution of land use on RMV. Additional discussion of the RMV property in relation to the SOCTIIP Alternatives is provided in Sections 6.4 to 6.7.

The enhanced accessibility, in terms of improved travel times and mobility in the area, provided by transportation improvements may affect the value of land and associated development. This enhanced value would increase pressure for development of the affected property if other factors discussed below also favored development. A study by Marlon Boarnet and Saksith Chalermpong (New Highways, Urban Development and Induced Travel, Institute of Transportation Studies (ITS), University of California, Irvine (UCI), August 2000) found "...empirical evidence that the construction of the first two portions of the Orange County toll road network created accessibility premia that are reflected in home sales prices." Using a variety of statistical techniques to examine how opening two new toll roads in Orange County affected home prices in nearby areas, the authors concluded the evidence was especially strong in regards to the FTC-N, but found ambiguous results for the San Joaquin Hills Transportation Corridor (SJHTC) due to "...confounding factors that are correlated with distance from the SJHTC toll road."

Other work by Boarnet found that the land use effects of modern highway projects likely operate over a "...very fine geographic scale, rather close to the project..." (Do Highways Matter? Evidence and Policy Implications of Highways' Influence on Metropolitan Development, Brookings Institution Center on Urban and Metropolitan Policy, Boarnet and Haughwout, August 2000). His work on the Orange County toll roads cited above found a positive effect on housing prices within an area extending outward for up to 1.6 kilometer (km, one mile (mi)) from the corridor centerlines.

A more recent study (New Highways, Induced Travel, and Urban Growth Patterns: A "Before and After" Test, ITS, UCI, Boarnet and Chalermpong, September 2002) which built on his previous work, found that, in addition to the effect on home values, the toll roads positively influenced employment growth in the vicinity of the facilities. Commercial office and retail, public buildings and industrial location decisions could be influenced by highway expansions.

Finally, it is important to note that any residential or non-residential growth that occurs in the vicinity of new or expanded highway systems likely comes at the expense of growth elsewhere in the region. In his August 2000 Brookings Institution study, Boarnet states "...the evidence suggests that highways influence land prices, population and employment changes near the project, and that the land use effects are likely at the expense of losses elsewhere."

6.4.2 OTHER FACTORS

As discussed below, many other factors can affect the amount, location and rate of growth in the SOCTIIP study area, including:

1. market demand for housing, employment and commercial services.

2. land availability to support future planned and unplanned development.

3. local land use policies and permitting authority.

4. decisions by local developers and landowners.

5. availability of other road improvements (e.g., new/expanded arterial or highway capacity).

6. availability of other services/infrastructure (e.g., wastewater treatment, water, schools, etc.).

6.4.2.1 Market Demand

Based on the currently adopted population and employment growth forecasts for the SOCTIIP study area, the resulting demand for housing and non-residential development is expected to remain strong through 2025. As discussed in detail in Section 4.3 (Affected Environment, Impacts and Mitigation Measures Related to Socioeconomics and Environmental Justice), population in the study area is expected to increase by 145,000 people between 2000 and 2025 (1.1 percent per year). Employment is expected to increase by 97,700 jobs over the same period (1.6 percent per year). Community Analysis Areas (CAAs) 59, 60 and 70 are expected to account for the majority of forecast growth in the SOCTIIP study area. Population in these three CAAs is forecast to increase by almost 97,600 persons between 2000 and 2025, and account for 67 percent of total population growth in the SOCTIIP study area. These three CAAs are in unincorporated County areas, and include the Ladera and Talega Planned Communities (PCs) and the RMV property. The RMV property is largely undeveloped and in agricultural holding or open space General Plan designations. OCP-2000 forecasted that future development of the RMV property would include approximately 21,000 dus. However, RMV has submitted development plans that call for 14,000 dus and less associated population than is assumed in the OCP-2000 forecasts. While these forecasts are based on macro level demand projections and assume adequate infrastructure (water, sewer, transportation, schools, etc.) will be available to support this development, the forecasts do not assume any specific infrastructure improvements, such as the SOCTIIP build Alternatives, are required to achieve the forecasts (personal communication with William Gayk, Director Center for Demographic Research (CDR), September 2001).

6.4.2.2 Approved and Planned Future Development and Areas Not Currently Planned For Development

The potential for growth inducing effects would be the greatest on undeveloped and unplanned land because these areas generally have no existing transportation infrastructure. With the exception of RMV, the majority of the SOCTIIP study area fits into three categories: (1) is already developed or under construction; (2) is in a General Plan for development or permanent open space or (3) has approved plans for future land use, such as a tentative tract map. The 9,254 hectare (ha, 22,850 acre (ac)) RMV property represents the only remaining large tract of undeveloped land in the study area although the General Plan designation for this site would allow for approximately 6,000 dus on this site. RMV has submitted plans to develop the property. This plan submitted to the County of Orange proposes 14,000 dus, approximately 465,000 square meters (sm, five million square feet (sq ft)) of commercial/industrial development, and recreational and open space uses as shown in Figure 6.4-1 and Table 6.4-1. The plan approved in November 2004 and subsequently modified by a Settlement Agreement (Figure 6.4-1A) allows 14,000 dwelling units, 3,480,000 square feet of urban activity center uses, 500,000 square feet of neighborhood center uses, and 1,220,000 square feet of business park uses. Figures and tables cited in this Section are provided following the last page of text in this Section. The plan proposes 7,000 fewer dus on the property than are included in the adopted regional growth forecasts in OCP-2000. The plan includes two circulation components: one that accommodates a toll road corridor on the original Far East Corridor (FEC) Alternative alignment which is similar to the currently proposed FEC-Modified (FEC-M) Alternative Alignment and one without any SOCTIIP Alternative. The land use plan and overall density of the project is the same under both circulation system assumptions.

Additionally, a long-term implication of the SOCTIIP could be the potential for existing land uses to intensify as redevelopment of the area occurs. Given the relatively new nature of much of the development in the study area (many of the communities in the study area have developed in the last 15 to 20 years), substantial redevelopment would likely occur beyond the 2025 time frame considered in the currently available regional projections and as considered in the analysis for this Environmental Impact Statement/Subsequent Environmental Impact Report (EIS/SEIR). The SOCTIIP has been designated in the County of Orange Master Plan of Arterial Highways (MPAH) since 1981. Two major planned communities in the study area, Ladera and Talega, are under construction and are substantially complete. SOCTIIP is not expected to enhance growth to any significant extent in these communities because the local land use agencies conditioned the approval of these developments to require the completion of the MPAH arterial system within the communities or comparable facilities. The land use approvals did not require the completion of the SOCTIIP, although the developers were required to contribute development impact fees to assist in the financing of the Eastern and Foothill Corridor Projects (including SOCTIIP). The Ladera and Talega projects are also the subject of development agreements between the developers and the local land use agencies. The development agreements provide the developers a vested right to complete the developments in accordance with the terms of the agreements.

6.4.2.3 Local Land Use Policies and Permitting Authority

The SOCTIIP study area covers the incorporated Cities of Aliso Viejo, Lake Forest, Laguna Hills, Laguna Woods, Mission Viejo, Laguna Niguel, Rancho Santa Margarita, San Juan Capistrano, Dana Point and San Clemente, unincorporated Orange County and the north part of Marine Corps Base (MCB) Camp Pendleton. Future land use planning and approval authority is vested in these agencies. The Transportation Corridor Agency (TCA), Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) have no local or county land use planning or approval authority in the SOCTIIP study area.

Growth in the study area is directed by the General Plans for the County of Orange, incorporated cities in the study area and the Master Plan for MCB Camp Pendleton. The General Plan is the principal legal and regulatory tool in California for addressing land development and its impacts. As mandated by Government Code Sections 65000 to 66003, each jurisdiction is required to have a General Plan which must include land use, circulation and housing elements, as well as other elements. The goals, objectives, policies and programs of each General Plan element must be internally consistent and consistent with all other elements of the General Plan. Objectives for population, housing and employment growth must be coordinated with the provision of infrastructure and must ensure that infrastructure is constructed as needed to serve new development. Although MCB Camp Pendleton is exempt from state regulations concerning General Plans, it has its own Master Plan, which serves a similar function.

It is important to note that the local land use planning and approval process may not always fully consider subregional and regional effects of individual projects, particularly related to major public infrastructure such as roads, airports, prisons, landfills and other similar projects. Local land use planning agencies tend to plan separately for major transportation improvements at a regional/subregional level (i.e., General Plan level) without consideration of specific local land use projects. This can result in situations where there is not always a direct nexus between a specific planned land use and any existing or planned transportation facility. Due to the long lead time involved in planning and implementing major regional and subregional transportation facilities, many are planned using long-range economic and demographic forecasts that incorporate long-term expectations on future development, while not reflecting any actual development plans. The SCAG Regional Transportation Plan (RTP) is an example of this type of regional/subregional transportation planning. Actual development of an area may or may not directly relate to the assumptions used to develop major transportation facility plans such as the RTP. Specific land use plans are generally aggregated into the planned development for a region or subregion.

Therefore, specific local land use projects, such as a developer or public agency's specific entitlement request in order to implement the General Plan land use for a site, are not generally recognized individually in the planning for major transportation improvement projects.

Future growth in the County of Orange is also limited by the Growth Management Element (GME) of its General Plan. The GME has two primary implementation programs: the Measure M Countywide Growth Management Program (GMP) and the Orange County Congestion Management Program (CMP). These programs address cooperative inter-jurisdictional control of development projects, as follows:

The GMP provides Inter-Jurisdictional Planning forums for the County to participate with other local jurisdictions in addressing cumulative traffic impacts and coordinating improvements to transportation and other infrastructure facilities. These forums also provide the opportunity to discuss proposed development projects with multi-jurisdictional impacts.

The CMP goals are to reduce traffic congestion and provide a mechanism for coordinating land use development and transportation improvement decisions as established by Measure M. The CMP established a process for use by each jurisdiction to analyze impacts of proposed development projects on the CMP highway system. The CMP includes mechanisms for inter-jurisdictional coordination and mitigation where a proposed development is determined to generate an increase in traffic on CMP links/intersections beyond the jurisdiction's boundaries.

The GME states: "In addition, the concept of implementing new arterial highway links commensurate with new development, including links parallel to the freeway system, is required by the GM Element and will serve to mitigate impacts on the freeway system." The County's GME requires adequate transportation facilities to mitigate adverse transportation impacts of development projects.

6.4.2.4 Decisions by Local Landowners and Developers

With the exception of RMV, the majority of the SOCTIIP study area fits into three categories: (1) is already developed or under construction, (2) is in a General Plan for development or permanent open space or (3) has approved plans for future land use, such as a tentative map. The owners of the last large undeveloped and unplanned property in the SOCTIIP study area, RMV, have submitted an application to develop this property. As noted previously, this plan proposes 14,000 dus and approximately 465,000 sm (five million sq ft) of commercial/industrial building space. The plan includes two circulation components: one that accommodates the original FEC Alternative and one without any SOCTIIP build Alternative. The land use plan and overall density of this proposed plan is the same under both circulation systems assumptions.

While the proposed RMV plan indicateds the overall location and density of the land use plan with or without the original FEC Alternative, implementation of the FEC or other corridor Alternatives that pass through or near the property might influence the location and density of development within the areas on RMV which are identified for development. Recognizing that other factors, such as market conditions, economics, local land use approvals, etc., affect landowner decisions, the enhanced accessibility provided by SOCTIIP or other transportation improvements could potentially influence the amount of development on the RMV property if some other factor or factors do not otherwise limit development potential. On the other hand, RMV has already submitted, and received approval for, applications for development of 7,000 dus ~~less~~ fewer than forecast in OCP-2000. ~~This action gives at least a general indication of the landowner's assessment of the appropriate~~ The development intensity level for the site is now established, irrespective of SOCTIIP. Therefore, for the RMV property, the SOCTIIP build Alternatives have not led to an increase in the number of dus requested by the landowner. However, the selection of a SOCTIIP build Alternative that provides ready access to the RMV property, such as the Preferred Alternative, will

enhance the local and regional circulation system and would reduce the need for unplanned local arterial improvements to address arterial deficiencies that are forecast without the SOCTIIP corridor Alternatives. Any SOCTIIP build Alternative with an alignment through the RMV property is likely to increase the value of property within close proximity of the SOCTIIP alignment and thus tend to encourage the developer to plan its property in a way that increases the value of the land in proximity to the SOCTIIP alignment. The ability to plan in this way is limited by the approved development areas and development intensity provided in the zoning.

6.4.2.5 Availability of Other Road Improvements

The SOCTIIP is one component of a larger regional circulation system to serve the study area. Other plans affecting the regional circulation system include the Circulation Elements of individual jurisdictional General Plans, the MPAH and the RTP, all of which include the SOCTIIP in the form of the FEC alignment. The availability of other circulation system improvements included in these plans will affect future growth in the area. Planned components of the MPAH and RTP occur on RMV. These components or comparable facilities are accommodated in the circulation component of the proposed RMV development plan.

6.4.2.6 Availability of Other Critical Infrastructure

The location, timing and level of future growth in the study area will also depend on the availability of certain types of infrastructure/services, such as water, sanitary sewers, schools, etc. Plans for critical future infrastructure are addressed by the individual jurisdictions and agencies providing these services to existing and future development, and their availability may affect the location, level and timing of future development irrespective of SOCTIIP or other transportation improvements.

6.5 EFFECTS OF THE SOCTIIP ALTERNATIVES ON GROWTH

6.5.1 EFFECTS ON THE RATE, LOCATION OR TYPE OF GROWTH IN THE SOCTIIP STUDY AREA

The following four questions were used to assess the potential for the SOCTIIP Alternatives to result in growth inducing effects:

> Question 1: Would the Alternative influence the overall rate of growth (that is, the speed at which growth occurs) in the SOCTIIP study area?
>
> Question 2: Would the Alternative influence the location of growth in the SOCTIIP study area?
>
> Question 3: Would the Alternative influence the type of growth in the SOCTIIP study area?
>
> Question 4: Would the Alternative influence the amount of growth in the SOCTIIP study area beyond what would otherwise have been expected in the foreseeable future?

The answers to these questions result in conclusions regarding growth inducing effects, as follows:

- "No" answers to Questions 1 through 4 would result in a conclusion that the Alternative has no effect on growth.
- "Yes" answers to Questions 1, 2 or 3 would result in a conclusion that the Alternative could potentially facilitate or support growth in the SOCTIIP study area.

- A "Yes" answer to Question 4 would result in the conclusion that the Alternative could potentially induce study area-wide growth beyond what would otherwise have been expected in the foreseeable future.

6.5.1.1 Effect on the Rate, Location or Type of Growth in the SOCTIIP Study Area (Questions 1 to 3)

An adequate transportation system is one of a number of infrastructure and services, such as water, sewer, drainage, fire protection and schools, which are necessary to support development. If any of these services cannot be provided, development would be restricted or substantially slowed.

The construction of any SOCTIIP Alternative, including the No Action Alternatives, would not be expected to substantially affect the pattern of development for currently planned land uses in the study area. With the exception of the Arterial Improvements Only (AIO) and I-5 Widening (I-5) Alternatives, the corridor and No Action Alternatives committed and planned transportation facilities are generally shown on the local and regional planning documents and were, therefore, considered during the planning for approved planned development. The land uses, including the amount, mix and distribution, were planned with the assumption that these improvements would contribute to the needed circulation infrastructure as these plans have been adopted after inclusion of the FTC on the MPAH in 1981. While some of the transportation facilities included in the AIO and I-5 Alternatives are not shown on local and regional planning documents, they are providing capacity enhancements through largely developed and currently planned areas. There could be some localized effect on the type, intensity and location of land uses in the immediate vicinity of new improvements in response to the final location and design of planned transportation facilities under any of the SOCTIIP build Alternatives.

It is possible that the rate of development could be affected by the development of the SOCTIIP Alternatives. All SOCTIIP Alternatives provide for enhanced local and regional access in the study area through implementation by others of the MPAH in addition to other facilities included in specific Alternatives. If the SOCTIIP build Alternatives were not constructed, the rate of development could be slowed for lack of adequate infrastructure. The EIR for the Ladera PC (Antonio Parkway Roadway Alignment and Land Use Plan (Ladera) Final EIR No. 555, SCH No. 94031075, County of Orange Environmental Management Agency, October 1995) evaluated the potential impacts if the SOCTIIP corridor were not implemented. The conclusion in that EIR was that the number of deficient intersections increased without the construction of the corridor. The Ladera PC approval was conditioned on the provision of transportation system capacity beyond the MPAH, excluding the FTC-South (FTC-S), prior to development of the final 1,000 dus in the project. The Ladera PC was not, however, conditioned on development of any specific transportation improvement. Therefore, without the SOCTIIP, other transportation improvements would be required to maintain the desired level of service to support that development. While the rate of construction of planned development could be slowed while other transportation improvements are identified, it should be noted that none of the planned development projects in the study area is conditioned on the implementation of a SOCTIIP build Alternative.

The construction of a SOCTIIP alternative could possibly have an effect on the rate and distribution of unplanned development, principally the RMV property. The plan submitted by the property owner only indicates the general location and overall intensity of development in development areas. The plan was submitted with two circulation systems, one showing the original FEC corridor, and one without any SOCTIIP build Alternatives. The overall distribution and intensity of land use is the same under both assumed circulation elements. However, the distribution and localized intensity of development in the major development areas on the RMV property could be affected by the specific location and alignments of circulation improvements, including SOCTIIP Alternatives, within these areas. All the SOCTIIP Alternatives, including the No Action Alternatives, provide for enhanced access in or near the RMV

property through assumed implementation by others of the MPAH in addition to other facilities included in specific Alternatives. Construction of these facilities could affect the localized rate of development, as the enhanced access provided by these facilities could make adjacent areas more attractive for development. This effect would be most pronounced under corridor Alternatives that pass through RMV, which are all the corridor Alternatives. Because they could provide improved access to more remote, undeveloped land, the SOCTIIP corridor Alternatives that cross RMV would be more growth facilitating than Alternatives, such as the AIO and I-5 Alternatives, that pass principally through developed areas.

The SOCTIIP build Alternatives would provide regional access; however, this would have to be augmented by improved local circulation on RMV to provide internal access and connections to the regional network. The existing MPAH shows no planned arterial highways serving a majority of this area. The provision of other infrastructure, such as water, sewer and emergency services, would also be required. Finally, the amount, location and pace of development would depend primarily on economic and market conditions, decisions by the landowners and approvals by jurisdictions having local land use authority.

In summary, in response to Questions 1 to 3, because of improved transportation facilities and systems, all the SOCTIIP build Alternatives could potentially affect the timing, location or type of growth in the study area, leading to the conclusion that they could potentially facilitate or support growth in the study area. This could occur because of the enhanced accessibility to developed, planned and unplanned (RMV) areas in the study area provided by the new transportation facilities and systems included in each Alternative. The facilities will add road capacity and provide alternative regional and subregional access routes through the study area, as well as providing direct access to the property through which the improvements pass. The SOCTIIP corridor Alternatives and the other build Alternatives that cross areas that are generally unplanned would be more growth facilitating than Alternatives, the AIO and I-5 Alternatives, that remain principally in developed areas, because they could provide improved access to more remote, undeveloped land.

The main differences in the potential growth facilitating effects of the SOCTIIP Alternatives relate to (1) the physical location of the effects in the study area and (2) the relative potential strength of the effect relative to other SOCTIIP Alternatives. These differences are discussed for each Alternative below. The discussion for each Alternative describes (1) the Alternative's route, (2) the strength of the potential growth facilitating effects relative to other SOCTIIP build Alternatives, (3) the areas where the potential growth facilitating effects of the Alternative would be focused, (4) the type and general location relative to project improvements of land uses potentially encouraged by the growth facilitating effects and (5) the relative effects of the Initial versus the Ultimate corridor configurations, where appropriate. The SOCTIIP Alternatives will have a much greater growth facilitating impact when compared to existing conditions. The development of the RMV property will require significant infrastructure improvements (such as water, sewer, roads) to accommodate ~~either~~ 14,000 units as proposed by the landowner ~~or 21,000 units as contemplated by the OCP-2000 or the 6,200 units in the County General Plan~~and approved by the County of Orange. Any of the build SOCTIIP Alternatives will provide some of the circulation improvements that will be needed for the development. The development could also be served by a circulation system that does not include a SOCTIIP build Alternative. See The Ranch Plan EIR No. 589, Chapter 3, page 3-32. As described in the analysis of traffic impacts, the build Alternatives address existing and projected circulation problems in the area to varying degrees. Those build Alternatives that do a better job of addressing circulation demand created by new development on the RMV property will tend to have a greater growth-facilitating impacts. The Preferred Alternative traverses the Ranch Plan area. The Preferred Alternative is limited to a maximum of six lanes rather than the eight lanes evaluated for the Ultimate configuration of the corridor Alternatives.

6.5.1.2 Far East Corridor-West Alternative

This Alternative passes along the eastern edge of the Las Flores Planned Community, continues southward through the RMV property, crosses into MCB Camp Pendleton, and joins I-5 just south of the Orange County border. Given that this Alternative passes through RMV, which is undeveloped, currently being planned for development, and currently largely unserved by major transportation infrastructure, the potential growth facilitating effects of the FEC-W-Alternative would be relatively greater than for Alternatives that pass largely through existing developed areas and areas that are planned for and currently under development. For RMV, being planned for development means that the property owner is requesting development approvals and entitlements; in terms of adopted plans, RMV is designated for planned development on the Orange County General Plan.

FEC-W-Initial

The growth facilitating effects of the FEC-W-Initial would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements, and to a lesser extent in a larger area extending outward from the centerline of the corridor improvements. While the geographic limits of this larger area of effect are variable, the accessibility premium created by corridor improvements could positively influence land values, and thus potentially increase pressures for development in the greater corridor area for up to 1.6 km (one mile) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, the Initial could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges, including Oso Parkway, Ortega Highway and Avenida Pico. The Initial would not facilitate growth in the vicinity of the Cristianitos Road or I-5 interchanges, as they are located on MCB Camp Pendleton, where civilian development is not allowed. The Initial could also facilitate residential development in the greater corridor area. The potential growth facilitating effects would be limited to areas currently planned or being planned for development, such as the development areas identified within the RMV Plan, as the corridor does not pass through already developed areas. Within the RMV property, the corridor passes through or near the following residential and/or commercial development Planning Areas: PA-2, PA-3 and PA-5 (see Figure 6.4-1). These growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed RMV plan because:

RMV's plans already show circulation elements with and without a SOCTIIP build Alternative and the development areas in the land use plan do not shift, intensify or change under the with and without scenario. Similar flexibility in the arrangement of land uses within the development areas would be expected in response to the other SOCTIIP build Alternatives.

Extensive effort has occurred to identify the appropriate areas for development on the RMV property, as well as identifying sensitive natural resource areas. It is expected that the planning and land use controls included as part of the NCCP process, such as the United States Fish and Wildlife Service Biological Opinion, would prohibit shifting the development into the biologically sensitive areas.

FEC-W-Ultimate

The potential growth facilitating effects of the FEC-W-Ultimate would be similar to those described for the FEC-W-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional roadway capacity provided under the Ultimate.

6.5.1.3 Far East Corridor-Modified Alternative

This Alternative passes along the eastern edge of the Las Flores Planned Community, continues southward through the RMV property, crosses into MCB Camp Pendleton, and joins I-5 just south of the Orange County border. Given that this Alternative passes through RMV, which is undeveloped, currently being planned for development, and currently largely unserved by major transportation infrastructure, the potential growth facilitating effects of the FEC-M-Alternative would be relatively greater than for Alternatives that pass largely through existing developed areas and areas that are planned for and currently under development.

FEC-M-Initial

The growth facilitating effects of the FEC-M-Initial would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements, and to a lesser extent in a larger area extending outward from the centerline of the corridor improvements. While the geographic limits of this larger area of effect are variable, the accessibility premium created by corridor improvements could positively influence land values, and thus potentially increase pressures for development in the greater corridor area for up to 1.6 km (one mile) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, the Initial could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges, including Oso Parkway, Ortega Highway and Avenida Pico. The Initial would not facilitate growth in the vicinity of the Cristianitos Road or I-5 interchanges, as they are located on MCB Camp Pendleton, where civilian development is not allowed. The Initial could also facilitate residential development in the greater corridor area. The potential growth facilitating effects would be limited to areas currently planned or being planned for development, such as the development areas identified within the RMV Plan, as this corridor does not pass through already developed areas. Within the RMV property, this corridor passes through or near the following residential and/or commercial development Planning Areas: PA-2, PA-3, PA-6, PA-7, and PA-8 (see Figure 6.4-1). These growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed RMV plan because:

- RMV's plans already show circulation elements with and without a SOCTIIP build Alternative and the development areas in the land use plan do not shift, intensify or change under the with and without scenario. Similar flexibility in the arrangement of land uses within the development areas would be expected in response to the other SOCTIIP build Alternatives.
- Extensive effort has occurred to identify the appropriate areas for development on the RMV property, as well as identifying sensitive natural resource areas. It is expected that the planning and land use controls included as part of the NCCP process, such as the United States Fish and Wildlife Service Biological Opinion, would prohibit shifting the development into the biologically sensitive areas.

FEC-M-Ultimate

The potential growth facilitating effects of the FEC-M-Ultimate would be similar to those described for the FEC-M-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional roadway capacity provided under the Ultimate.

6.5.1.4 Central Corridor-Complete Alternative

This Alternative passes along the east edge of the Las Flores PC and continues south through the RMV property to Ortega Highway. This corridor extends south from Ortega Highway, crossing through Prima Deshecha Landfill and south to Avenida La Pata. This Alternative extends southwest from the crossing of Avenida La Pata to a direct connector at I-5, then extend south on I-5 to the terminus just north of Cristianitos Road.

CC-Initial

Given that this corridor passes along the west edge of RMV, which is undeveloped, currently being planned for development and largely unserved by major transportation infrastructure, the potential growth facilitating effects of the CC-Initial would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas that are planned and currently under development.

The growth facilitating effects of the CC-Initial would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements and, to a lesser extent, in a larger area extending out from the centerline of the corridor improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by corridor improvements could positively influence land values and, therefore, potentially increase pressures for development for up to 1.6 km (one mi) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, this corridor could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges, including Oso Parkway, Ortega Highway, Avenida Vista Hermosa, Avenida Pico and I-5. This corridor could also facilitate residential development in the greater corridor area, primarily in the parts of RMV identified for urban development. Within the RMV property, this corridor passes through the following residential and/or commercial development PAs: PA 1 and PA 2, as shown on Figure 6.4-1. Growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed plan. Similar growth facilitating effects could occur to a lesser extent where the alignment passes through Talega PC and other developed parts of San Clemente, although they would probably occur in the longer term as much of this area is already developed.

CC-Ultimate

The potential growth facilitating effects of the CC-Ultimate would be similar to those described for the CC-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional road capacity provided under the Ultimate, compared to the CC-Initial.

6.5.1.5 Central Corridor-Avenida La Pata Variation Alternative

This Alternative passes along the eastern edge of the Las Flores Planned Community and continues southward through the RMV property to Ortega Highway. The alignment then extends south from Ortega Highway, crossing through the Prima Deshecha Landfill property, and south to Avenida Vista Hermosa. This Alternative incorporates TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico, and on Avenida Pico from Avenida La Pata to I-5.

CC-ALPV-Initial

Given that this corridor passes along the western edge of RMV, which is undeveloped, currently being planned for development, and currently largely unserved by major transportation infrastructure, the potential growth facilitating effects of the CC-ALPV-Initial would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas that are planned and currently under development.

The growth facilitating effects of the CC-ALPV-Initial would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements, and to a lesser extent in a larger area extending outward from the centerline of the corridor improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by corridor improvements could positively influence land values, and thus potentially increase pressures for development for up to 1.6 km (one mile) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, the Initial could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges and major intersections, including Oso Parkway, Ortega Highway, Avenida Vista Hermosa, Avenida Pico, and I-5. The Initial could also facilitate residential development in the greater corridor area, primarily in the portions of RMV that are identified for urban development. Within the RMV property, this corridor passes through the following residential and/or commercial development Planning Areas: PA 1 and PA2 (see Figure 6.4-1). Growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed plan. Similar growth facilitating effects could occur to a lesser extent where the alignment passes through Talega and other developed parts of San Clemente, although they would probably occur in the longer term as much of this area is already developed. There effects could include both intensification and/or redevelopment.

CC-ALPV-Ultimate

The potential growth facilitating effects of the CC-ALPV-Ultimate would be similar to those described for the CC-ALPV-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional roadway capacity provided under the Ultimate.

6.5.1.6 Alignment 7 Corridor-Avenida La Pata Variation Alternative

This Alternative passes along the eastern edge of the Las Flores Planned Community and continues southward through the RMV property to Ortega Highway. This Alternative includes construction of a new connector road extending east from Antonio Parkway to the A7C alignment. The alignment extends south from Ortega Highway and across the Prima Deshecha Landfill, entering the City of San Clemente and crossing the Talega Valley PC to Avenida Vista Hermosa. The alignment incorporates TSM technology improvements on Avenida Vista Hermosa from the corridor terminus at Avenida Vista Hermosa to Avenida La Pata, on Avenida La Pata from Avenida Vista Hermosa to Avenida Pico and on Avenida Pico from Avenida La Pata to I-5.

A7C-ALPV-Initial

Given that this corridor passes through the western portion of RMV, which is undeveloped, currently being planned for development, and currently largely unserved by major transportation infrastructure, the potential growth facilitating effects of the A7C-ALPV-Initial would be relatively greater than for

Alternatives that pass primarily through existing developed areas and areas that are planned and currently under development.

The growth facilitating effects of the A7C-ALPV-Initial would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements, and to a lesser extent in a larger area extending outward from the centerline of the corridor improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by corridor improvements could positively influence land values, and thus potentially increase pressures for development for up to 1.6 km (one mile) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, the Initial could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges and major intersections, including Oso Parkway, Ortega Highway and Avenida Vista Hermosa. The Initial could also facilitate residential development in the greater corridor area, primarily in the portions of RMV that are identified for urban development. Within the RMV property, this corridor passes through the following residential and/or commercial development Planning Areas: PA 1, PA 2 and PA 5 (see Figure 6.4-1). Growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed plan. Growth facilitating effects could occur to a lesser extent where the alignment passes through Talega and other developed parts of San Clemente.

A7C-ALPV-Ultimate

The potential growth facilitating effects of the A7C-ALPV-Ultimate would be similar to those described for the A7C-ALPV-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional roadway capacity provided under the Ultimate.

6.5.1.7 Alignment 7 Corridor-Far East Crossover-Modified Alternative

This Alternative passes along the eastern edge of the Las Flores Planned Community, continues southward through the RMV property, cross into MCB Camp Pendleton, and join I-5 just south of the Orange County border. Given that this corridor passes through RMV, which is undeveloped, currently being planned for development (at the time of the Draft EIS/SEIR), and currently largely unserved by major transportation infrastructure, the potential growth facilitating effects of the A7C-FEC-M-Alternative would be relatively greater than for Alternatives that pass largely through existing developed areas and areas that are planned for and currently under development. The growth-facilitating effects of the A7C-FEC-M Alternative are now reduced because of the status of RMV, as previously described.

As stated in Section 2.2, the A7C-FEC-M-Initial Alternative alignment evaluated in the Draft EIS/SEIR was refined in order to minimize environmental impacts and address engineering requirements. The A7C-FEC-M-Initial Alternative, with the design modifications, was selected as the Preferred Alternative. The design modifications incorporated into the Alternative do not substantially alter the location of the alignment, but growth-inducing impacts are reduced compared to the A7C-FEC-M-Ultimate by limiting the Preferred Alternative to six general purpose lanes. All utility relocations will occur within the designated disturbance limits for the Preferred Alternative. The evaluation of the potential growth-inducing effects of the Preferred Alterative is the same as the evaluation of the potential impacts of the A7C-FEC-M-Initial Alternative.

A7C-FEC-M-Initial

The growth facilitating effects of the A7C-FEC-M-Initial/Preferred Alternative would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the corridor in the immediate vicinity of project improvements, and to a lesser extent in a larger area extending outward from the centerline of the corridor improvements. While the geographic limits of this larger area of effect are variable, the accessibility premium created by corridor improvements could positively influence land values, and thus potentially increase pressures for development in the greater corridor area for up to 1.6 km (one mile) from the corridor centerline (Boarnet, M., August 2000).

To the degree allowed by local land use regulations and supported by market conditions, the ~~Initial~~ Preferred Alternative could facilitate commercial and industrial development along the corridor route and higher density commercial retail and office development in the immediate vicinity of interchanges, including Oso Parkway, Ortega Highway, ~~C Street,~~ and Avenida Pico. This corridor would not facilitate growth in the vicinity of the Cristianitos Road or I-5 interchanges, as they are located on MCB Camp Pendleton, where civilian development is not allowed. The Initial could also facilitate residential development in the greater corridor area. The potential growth facilitating effects would be limited to areas currently planned or being planned for development, such as the development areas identified within the RMV Plan, as this corridor does not pass through already developed areas. Within the RMV property, this corridor passes through or near the following residential and/or commercial development Planning Areas: PA 2, PA 5, and PA 8 (see Figure 6.4-1 and updated Figure 6.4-1A). These growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed RMV plan because:

- RMV's plans already show circulation elements with and without a SOCTIIP build Alternative and the development areas in the land use plan do not shift, intensify or change under the with and without scenario. Similar flexibility in the arrangement of land uses within the development areas would be expected in response to the other SOCTIIP build Alternatives.
- Extensive effort has occurred to identify the appropriate areas for development on the RMV property, as well as identifying sensitive natural resource areas. It is expected that the planning and land use controls included as part of the NCCP process, such as the United States Fish and Wildlife Service Biological Opinion, would prohibit shifting the development into the biologically sensitive areas.

A7C-FEC-M-Ultimate

The potential growth facilitating effects of the A7C-FEC-M-Ultimate would be similar to those described for the A7C-FEC-M-Initial. However, the level of potential effects could be somewhat greater under the Ultimate due to the additional roadway capacity provided under the Ultimate (eight lanes versus six lanes). The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. The Preferred Alternative is proposed as an initial corridor only; therefore, growth-inducing impacts of the Preferred Alternative would be similar to impacts of the A7C-FEC-M Initial Corridor, not the A7C-FEC-M Ultimate.

6.5.1.8 Arterial Improvements Only Alternative

The AIO Alternative assumes full build out of the MPAH and the RTP and also proposes the following additional improvements to the transportation system:

- Expansion of Antonio Parkway/Avenida La Pata to an eight lane Smart Street from Oso Parkway south to San Juan Creek Road, and to a six lane Smart Street from San Juan Creek Road south to

Avenida Pico. Antonio Parkway/Avenida La Pata currently exists from south of Ortega Highway to the north. The MPAH shows Antonio Parkway/La Pata Avenue being extended south to south of Avenida Pico, with a six or four lane cross section. The AIO Alternative proposes adding one lane in each direction on Antonio Parkway/La Pata Avenue from Oso Parkway to San Juan Creek Road.

- Smart street improvements/TSM strategies on Ortega Highway, Camino Las Ramblas and Avenida Pico between Antonio Parkway/Avenida La Pata and I-5. Smart streets include a combination of advanced traffic management strategies such as traffic signal coordination, real time traffic monitoring and surveillance, and traveler information; and modest physical improvements such as additional turn lanes at intersections and select grade separations.
- Focused improvements are proposed for the intersections of Antonio Parkway/Avenida La Pata with Avenida Pico, Ortega Highway, Crown Valley Parkway and Oso Parkway. These improvements would include either left turn flyovers or full grade separated intersections.

Improvements under this Alternative are primarily in areas already planned and under development or existing urban areas, although improvements under this Alternative pass through one RMV PA (PA 1, as shown on Figure 6.4-1) being planned for residential and commercial uses. Therefore, the potential growth facilitating effects of this Alternative would be relatively lower than for Alternatives that pass primarily through unplanned/uncommitted areas, principally RMV.

The growth facilitating effects of the AIO Alternative would be focused in the immediate vicinity of intersections that can be developed for urban uses, along this road in the immediate vicinity of project improvements and, to a lesser extent, in a larger area extending outward from the centerline of the improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by these road improvements could positively influence land values and, therefore, potentially increase pressures for development for up to 1.6 km (one mi) from the road centerline (Boarnet, M., August 2000). However, with the exception of the improvements that pass through RMV PA 1, this Alternative's improvements occur in largely developed and currently planned and under development areas, and potential growth facilitating effects would generally be more localized than in RMV, which is undeveloped and unserved by major urban infrastructure.

To the degree allowed by local land use regulations and supported by market conditions, this Alternative could facilitate localized commercial and industrial development along the improvement routes and higher density commercial retail and office development in the immediate vicinity of major intersections. This Alternative could also facilitate residential development in the greater road area, primarily in RMV PA 1. Growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed and adopted plans in these areas.

6.5.1.9 I-5 Alternative

The I-5 Alternative assumes full build out of the MPAH and the RTP. The I-5 Alternative also assumes the following improvements to I-5: the addition of either one or two general purpose lanes in each direction between Cristianitos Road and north of Lake Forest Drive; and the provision of one HOV lane in each direction, except where HOV lanes are already programmed between Camino Las Ramblas and Avenida Pico. Additional mixed flow (auxiliary) lanes will be provided on several segments of I-5.

Improvements under this Alternative are within areas already planned and under development or existing urban areas. Therefore, the potential growth facilitating effects of this Alternative would be relatively lower than for Alternatives that pass primarily through unplanned/uncommitted areas, principally RMV.

The growth facilitating effects of this Alternative would be focused in the immediate vicinity of interchanges that can be developed for urban uses, along the I-5 corridor in the immediate vicinity of project improvements and, to a lesser extent, in a larger area extending out from the centerline of the improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by improvements could positively influence land values and, therefore, potentially increase pressures for development for up to 1.6 km (one mi) from the freeway centerline (Boarnet, M., August 2000). However, this Alternative's improvements occur in largely developed and currently planned and under development areas, and potential growth facilitating effects would generally be more localized than in RMV, which is undeveloped and unserved by major urban infrastructure.

To the degree allowed by local land use regulations and supported by market conditions, the improvements to I-5, which generally passes through existing developed areas of San Clemente, Dana Point, San Juan Capistrano, Laguna Niguel, Mission Viejo, Laguna Hills and Lake Forest, could encourage localized redevelopment or intensification of commercial, industrial or residential uses that benefit from major highway exposure or immediate highway access.

6.5.1.10 No Action Alternatives

The No Action Alternatives assume the following:

- Build out of the MPAH, with all arterials constructed to their ultimate cross sections consistent with the MPAH.
- Build out of the RTP improvements in South Orange County.
- No extension of the existing FTC south of its existing terminus at Oso Parkway.
- An on-site circulation system on the RMV property, to support the 6,200 dus in the General Plan, the 14,000 dus proposed in the RMV development plan or the 21,000 dus forecast in OCP-2000.

Improvements under these Alternatives are primarily in areas already planned and under development or existing urban areas, although some MPAH improvements pass through one RMV area (PA 1, as shown on Figure 6.4-1) being planned for residential and commercial uses. Therefore, the potential growth facilitating effects of these Alternatives would be relatively lower than for Alternatives that pass primarily through unplanned/uncommitted areas, principally RMV.

The growth facilitating effects of these Alternatives would be focused in the immediate vicinity of interchanges that can be developed for urban uses, in the immediate vicinity of background project improvements (MPAH and RTP) and, to a lesser extent, in a larger area extending out from the centerlines of the improvements. While the geographic limits of this larger impact area are variable, the accessibility premium created by improvements could positively influence land values and, therefore, potentially increase pressures for development for up to 1.6 km (one mi) from the road centerlines. However, with the exception of the MPAH improvements that pass through RMV PA 1, these Alternatives' improvements occur in largely developed and currently planned and under development areas, and potential growth facilitating effects would generally be more localized than in RMV, which is undeveloped and unserved by major urban infrastructure. Given that there are no SOCTIIP-related improvements in these No Action Alternatives, beyond those assumed to be completed by others, such as the MPAH and RTP, there are no potential growth facilitating effects from these Alternatives beyond those generated by the improvements assumed to be completed by others.

To the degree allowed by local land use regulations and supported by market conditions, these Alternatives could facilitate localized commercial and industrial development along the improvement

routes and higher density commercial retail and office development in the immediate vicinity of interchanges and major intersections, and residential development in the greater road area, primarily in RMV PA 1. Growth facilitating effects would occur within the overall distribution and intensity of development allowed under the proposed plan.

6.5.2 EFFECTS ON THE AMOUNT OF GROWTH IN THE SOCTIIP STUDY AREA (QUESTION 4)

All the SOCTIIP Alternatives, including the No Action Alternatives, would facilitate and support growth in the study area through improved regional access and circulation. However, the pressure for urban development throughout the study area, but principally in the undeveloped parts of the study area, such as RMV, would occur even without the SOCTIIP Alternatives. The Ladera and Talega PCs already have entitlements for growth and are partially built out. South Orange County is perceived as a desirable place to live and work. The unemployment rate is lower than the national and state averages, the climate is temperate and many amenities are available. This conclusion is supported by adopted regional population and employment forecasts, which indicate continued strong demand for housing and non-residential development in Orange County through 2025, continuing development in entitled, planned areas (Ladera PC, Talega PC, etc.) and the longer range planning that is underway for RMV.

The SOCTIIP Alternatives would have limited influence on the amount of development in existing developed areas and areas already planned for development, such as the Ladera, Talega or Marblehead PCs, for reasons discussed in Sections 6.5.1. However, adopted regional growth forecasts indicate long-term demand for up to 21,000 dus on RMV which is the last large tract of undeveloped and unplanned land in the SOCTIIP study area. The RMV plan proposes 14,000 dus and approximately 465,000 sm (five million sq ft) of commercial and industrial building space. The Ranch Plan Settlement Agreement allows 14,000 dwelling units, 3,480,000 square feet of urban activity center uses, 500,000 square feet of neighborhood center uses, and 1,220,000 square feet of business park uses. The plan includes two circulation components: one that accommodates the FEC Alternative and one without any SOCTIIP Alternative. The land use plan and overall density of the project is the same under both assumed circulation systems.

While the RMV plan indicates the overall location and density of the land use plan with or without the FEC Alternative, implementation of the FEC or other Alternatives that pass through or near the RMV property might influence the location and density of development in the areas identified for development. Recognizing that other factors, such as market conditions, economics, local land use approvals, etc., affect landowner decisions, the enhanced accessibility provided by SOCTIIP or other transportation improvements could potentially influence the amount of development on RMV if some other factor or factors do not limit development potential. On the other hand, RMV has already submitted, and the County approved, an application for development of 7,000 dus less than forecast in OCP-2000. This action gives at least a general indication of the landowner's assessment of the appropriate development intensity level for RMV, irrespective of the SOCTIIP. Therefore, for the RMV property, the SOCTIIP has not led to an increase in the number of dus requested by the landowner. Now that there is a Settlement Agreement in place over RMV, it is highly unlikely that the FEC alternatives would influence the location and density of development (see Figure 6.4-1A).

The increment between the RMV plan and adopted regional growth forecast for the area, 7,000 dus, could be accommodated through minor density increases in the existing developed and planned for development areas. This could occur through a combination of infill development, redevelopment and increased density. Intensification of land use is a trend that would be expected to occur as the study area matures. For example, as north Orange County matured over the past three decades, the density of development increased. This is shown by the increase in multi-family housing as a share of total dus over the period.

In 1970, multi-family housing represented 28 percent of the total dus in north Orange County. By 2000, the share was 37 percent. Accommodating the 7,000 dus forecast for RMV would require a density increase of less than three percent over forecast levels in the balance of the SOCTIIP study area. The location and amount of this potential development would be dependent on future landowner, developer and local jurisdiction decisions.

Published documentation on RMV plans have not identified the expected number of employees that might be accommodated in the commercial/industrial development planned for the property. Therefore, direct comparisons with employment levels projected for RMV in OCP-2000 (about 10,500 jobs) are not possible. However, based on typical employee per square foot factors, the five million square feet of commercial/industrial space included in the RMV plan could accommodate between 7,000 and 17,000 employees. Thus, the RMV plan potentially includes sufficient commercial/industrial space to accommodate OCP-2000 employment projections. Further, as stated above, the landowners' plan includes the same level of commercial/industrial development with or without SOCTIIP improvements, indicating that the landowner does not anticipate that SOCTIIP improvements would lead to increased commercial/industrial development.

Therefore, given currently available information, it is not anticipated that the SOCTIIP Alternatives' improvements would influence the amount of growth on the RMV property. They may, however, affect the location, timing or localized intensity of growth of RMV. However, it is unlikely that SOCTIIP Alternatives would influence the total amount of growth in the SOCTIIP study area beyond what would otherwise be expected under the adopted regional growth forecasts in the foreseeable future and would not be considered to be growth inducing. With the RMV Settlement Agreement, it is even more unlikely that SOCTIIP would influence the total amount of growth.

The SOCTIIP build Alternatives would provide improved accessibility from residential population centers in northern San Diego County, such as Oceanside, Carlsbad and Encinitas, to major employment centers in central Orange County, such as the Irvine Spectrum area. As previously stated in Section 6.5.1, improved accessibility provided by transportation projects can potentially affect the amount, location and rate of growth in areas served by the improvement. However, improved accessibility provided by SOCTIIP build Alternatives is not expected to substantively affect growth in northern San Diego County due to:

1. The small share of workers who commute from San Diego County to jobs in Orange County. Based on 2000 United States Census data, less than one percent of San Diego County workers commute to jobs in Orange County (the reverse is also true).

2. The distance of this area from Orange County job centers combined with the relatively limited incremental improvement in long distance commute time provided by the SOCTIIP build Alternatives. The population centers in northern San Diego County are separated from Orange County's southern border by MCB Camp Pendleton, a distance of 33+ km (20 plus mi). Camp Pendleton is under federal ownership and military operations are anticipated to continue well into the foreseeable future. No civilian development is permitted in this area. Given the distance from northern San Diego County population centers to the Orange County border and data provided in Section 3.0 (Traffic), commute times from northern San Diego County population centers to central Orange County job centers would be almost 1.5 hours (or more, the further south one goes) under the No Action Alternatives. Based on 2000 United States Census data, it is estimated that less than four percent of workers in northern San Diego County commute this amount of time. The SOCTIIP build Alternatives could reduce this commute time by 0 minutes to a maximum of 14 minutes, with the greatest reduction under the I-5 Alternative. The corridor Alternatives could generally reduce commute times between these areas by less than 10 minutes. Even under the maximum reduction

scenario (14 minutes), 2000 United States Census data show that about six percent of workers commute this amount of time, indicating a relatively limited incremental increase in the pool of workers that might choose to commute the length of time needed to get to Orange County job centers from northern San Diego County.

6.6 CONCLUSIONS REGARDING GROWTH INDUCING IMPACTS

In summary, each of the SOCTIIP build Alternatives and the No Action Alternatives, which do not include any SOCTIIP improvements, has the potential to facilitate or support growth in localized areas through the provision of enhanced accessibility to specific parts of the study area. However, while all the SOCTIIP Alternatives may affect the localized rate and location of growth because development would be expected to cluster in the vicinity of the transportation system facilities that enhance accessibility, the regional growth rate would be expected to remain stable. When compared against existing conditions, any of the build Alternatives will tend to hasten growth and contribute to an intensification of growth. The FEC, A7C (including the Preferred), and CC Alternatives corridor variations would have the greatest amount of growth-facilitating impacts; the AIO and I-5 Alternatives would be less growth facilitating. The Alternatives would not be expected to induce growth beyond the amount of growth that is otherwise projected to occur during the planning horizon for the project, based on:

- The pressure for urban development will occur with or without the implementation of the SOCTIIP Alternatives. The study area is perceived as a desirable place to live and work. The unemployment rate is lower than the national and state averages, the climate is temperate and many amenities are available. The adopted population and employment forecasts indicate continued strong demand for housing and non-residential development in south Orange County through 2025.
- Total levels of development and growth are controlled by the General Plans of the County and adjacent cities, and are ultimately driven by the market demand for housing, jobs, recreation and services. The TCA, FHWA and Caltrans have no local or county level land use planning or approval authority in south Orange County. The County's GME requires adequate transportation facilities to mitigate adverse transportation impacts of development projects.
- Adopted regional growth forecasts indicate long-term demand for up to 21,000 dus on the last large tract of undeveloped and unplanned land in the SOCTIIP study area, RMV. The property owner's plan proposes 14,000 dus and approximately 465,000 sm (five million sq ft) of commercial/industrial building space. While the RMV plan indicates the overall location and density of the land use plan with or without the FEC Alternative, implementation of the FEC or other Alternatives that pass through or near the property might influence the location and density of development in the areas on RMV identified for development. Recognizing that other factors, such as market conditions, economics, local land use approvals, etc., affect landowner decisions, the enhanced accessibility provided by the SOCTIIP Alternatives or other transportation improvements could potentially influence the amount of development on the property if some other factor or factors do not limit development potential. On the other hand, RMV has already submitted, and the County approved, an application for development of 7,000 dus less than forecast in OCP-2000. This action gives at least a general indication of the landowner's assessment of the appropriate development intensity level for the site, irrespective of the SOCTIIP. With the Settlement Agreement, the development intensity level is now set. Therefore, for the RMV property, the SOCTIIP has not led to an increase in the number of dus requested by the landowner.
- The increment between the RMV plan and the adopted regional growth forecast for the area, 7,000 dus, could be accommodated through minor density increases in the existing developed and planned for development areas. Accommodating the additional 7,000 dus forecast for RMV would require a density increase of less than three percent over forecast levels in the balance of the SOCTIIP study

area. Based on the County approval and RMV Settlement Agreement, the additional 7,000 du will not be accommodated within RMV. Therefore, it is unlikely that the SOCTIIP Alternatives would influence the amount of growth in the SOCTIIP study area beyond what would otherwise be expected in the foreseeable future.

6.7 IMPACTS OF GROWTH INDUCEMENT

The SOCTIIP Alternatives, including the No Action Alternatives, are anticipated to have short- and long-term growth facilitating impacts by expanding access to existing planned and developed areas and by providing access to currently unplanned and undeveloped areas. Environmental impacts of this growth on planned land uses have been considered by the respective cities and county in conjunction with the adoption of their General Plans and land use plans for these areas. Consequently, the SOCTIIP Alternatives are not anticipated to result in additional unanticipated environmental impacts to already committed and uncommitted planned land uses.

However, the SOCTIIP Alternatives have the potential to affect the location, timing and localized intensity of development on the undeveloped and unplanned areas that are not committed to permanent open space. RMV represents the only significant property in this category. The General Plan and zoning level of e~~E~~ntitlement processing for urban development on RMV has been completed and open space and development areas have been further refined by the Settlement Agreement approved by the County of Orange, RMV, and the environmental organizations, in conjunction with habitat preservation and NCCP planning~~, are currently underway~~ tenets. The ~~proposed~~ plans identify the location of development and open space areas in the property and ~~have proposed~~ a maximum level of development that could occur in the development areas. ~~These development and open space areas are not adopted yet and could change during the environmental review process. The changes would most likely not substantially change the total amount of development on RMV.~~

The NOP for the RMV project ~~indicates~~ indicated that the project ~~will~~ could potentially significantly impact agricultural resources, hydrology/drainage, water quality, air quality, noise, biological resources, aesthetics, cultural resources, recreation, mineral resources, noise, public services, traffic, and utilities and services. The Final EIR for the RMV Ranch Plan found that all of these effects remained significant after mitigation with the exception of impacts to hydrology, cultural resources and recreation. In addition, the Final EIR found that the Ranch Plan would result in a significant effect to land use with regard to the long-term regional housing deficit. Section 5.0 (Cumulative Impacts) more specifically addresses potential impacts of the SOCTIIP Alternatives for specific environmental parameters in conjunction with the RMV and other development in the study area, based on currently available data.

Potential traffic and traffic related air quality and noise impacts on the regional and subregional transportation network of development on RMV have been considered in the analyses conducted for the SOCTIIP Alternatives, as these analyses assumed either 14,000 or 21,000 dus would be constructed on the RMV property, consistent with the proposed RMV development plan and OCP-2000, respectively.

To the extent that the SOCTIIP Alternatives facilitate this development activity, they would contribute to these impacts. However, the effect will be limited to development areas and overall levels of development identified in the proposed RMV plan. Therefore, the SOCTIIP Alternatives will not increase the overall impacts of the RMV development that will be evaluated in the EIR for the RMV plan. It is not anticipated that the boundaries of the development areas on RMV would be expanded or shifted, thus potentially increasing the impact on sensitive habitat areas, in response to SOCTIIP Alternatives because:

The plan approved by the County and further refined by the Settlement Agreement establishes the boundaries of the development areas. Development can only occur in the designated areas. The overall development intensity is set by the County approvals and cannot be exceeded.

The RMV plan already shows circulation elements with and without one of the SOCTIIP build Alternatives (FEC) and the development areas in the land use plan do not shift or change under the with and without SOCTIIP scenarios. Similar flexibility in the arrangement of land uses in the development areas would be expected in response to the other SOCTIIP build Alternatives.

Extensive effort has occurred to identify the appropriate areas for development on the RMV property, as well as identifying sensitive natural resource areas. It is expected that the planning and land use controls included as part of the NCCP process, such as the USFWS Biological Opinion, would prohibit shifting the development into the biologically sensitive areas or increasing the overall amount of development.

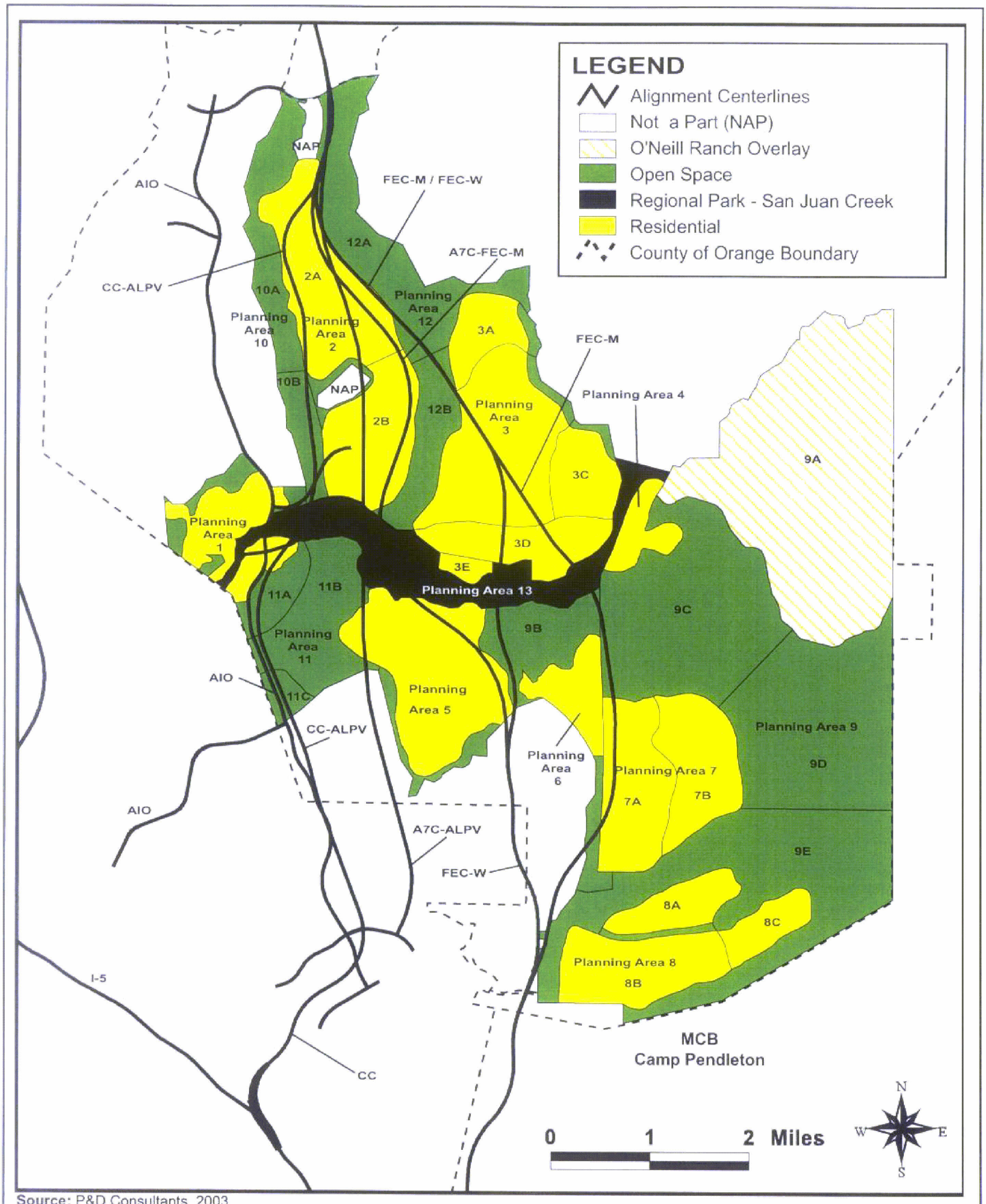
The SOCTIIP Alternatives having relatively greater potential to facilitate growth on RMV are those that pass largely through the property and include the FEC, A7C (including the Preferred), and CC Alternatives and the corridor variations to those Alternatives. SOCTIIP Alternatives and the No Action Alternatives, which do not include any SOCTIIP improvements, that pass largely through existing planned and developed areas and have limited or no segments passing through or near RMV, would have relatively lower potential to facilitate growth on RMV. These are the AIO, I-5 and the No Action Alternatives.

Table 6.4-1
Proposed Rancho Mission Viejo Land Use Statistical Table

PLANNING AREAS						OVERLAY ZONES												
Planning Area	Residential		Open Space		Totals	O'Neill Ranch						Urban Activity		Neighborhood Center		Business Park		Golf Resort
	Max dus	Gross Acres	Gross Acres	Reg Park Gross Acres	Gross Acres	Estate	Gross Acres	Golf Casitas	Gross Acres	Golf Course Gross Acres	Total Gross Acres	Gross Acres	Maximum Square Feet	Gross Acres	Maximum Square Feet	Gross Acres	Maximum Square Feet	Gross Acres
1	1,020	540	148	122	810							108	630,000			38	575,000	
2	1,180	,1631	49		1,680											40	610,000	
3	6,000	2,193	115		2,308							22	140,000	22	220,000	100	1,525,000	
4	150	216			216									5	50,000			
5	2,440	1,191	159		1,350									5	50,000			
6	110	275	33		308													
7	1,480	1,350	132		1,482									2	20,000			
8	1,400	1,214	50		1,264									5	50,000	80	1,220,000	20
9			9,218		9,218	100	200	120	20	200	420							
10			778		778													
11			1,050		1,050													
12			1,429		1,429													
13				957	957													
Subtotal	13,780	8,610	13,161	1,079	22,850	100	200	120	20	200	420	130	770,000	39	390,000	258	3,930,000	20
O'Neill Overlay	220																	
TOTALS	14,000	8,610	13,161	1,079	22,850													

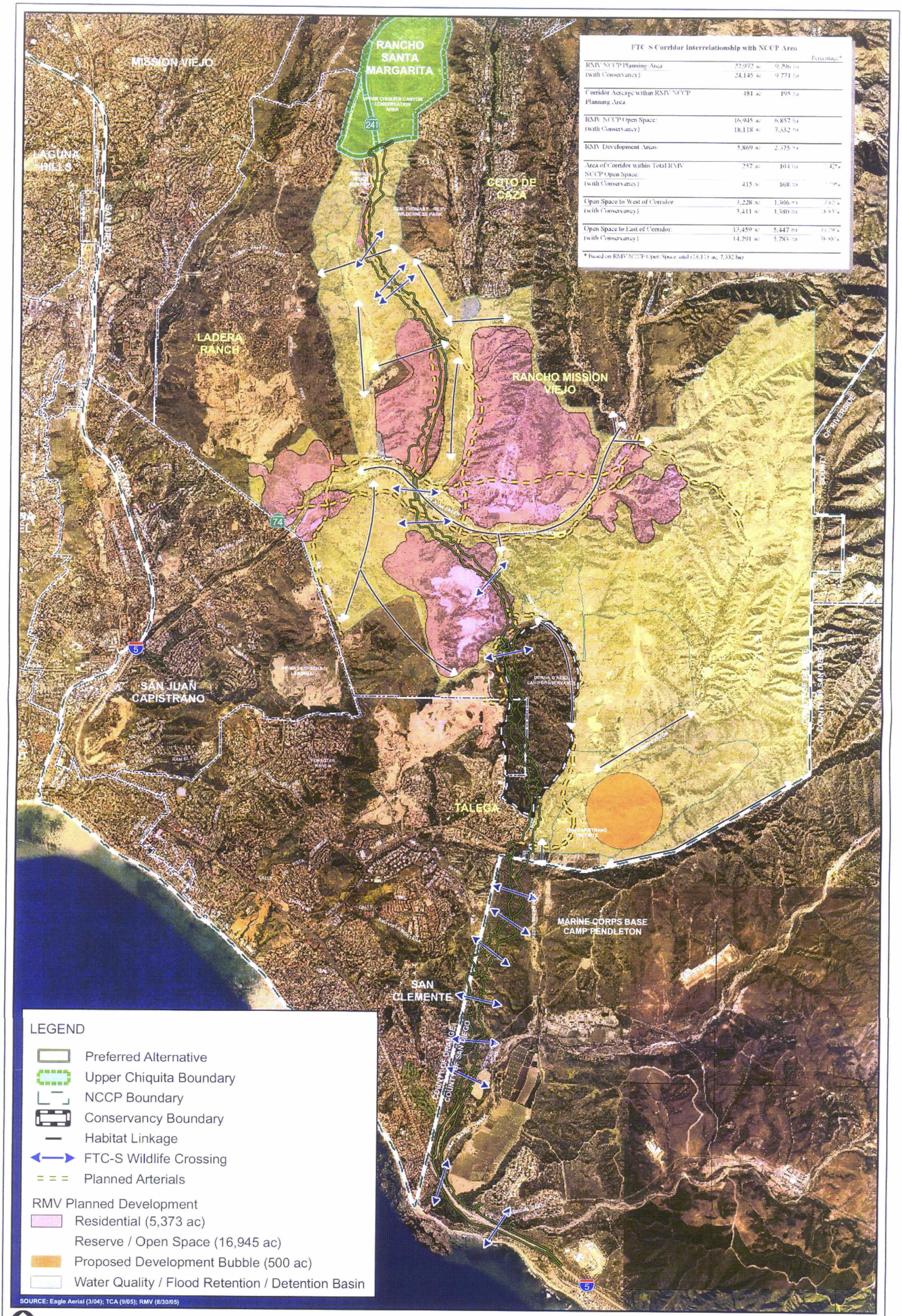
Source: Rancho Mission Viejo (2001).

Note: The Ranch Plan (Rancho Mission Viejo) was approved by the County of Orange and refined in accordance with a subsequent Settlement Agreement. Generally, the approved Ranch Plan allows for 14,000 dus and approximately five million square feet of commercial and industrial building space. The Settlement Agreement increased the area to be retained as open space to over 16,000 acres.



Source: P&D Consultants, 2003.

Rancho Mission Viejo Proposed Development



Compatibility of the Preferred Alternative with the Proposed Ranch Plan and Future NCCP Design

SOCTIIP EIS/SEIR

Figure 6.4-1A

(11/17/05) I:\TCA430\GIS\E_RMV-NCCP.mxd

SECTION 7.0
CALIFORNIA ENVIRONMENTAL QUALITY ACT EVALUATION

7.1 CEQA LEVEL OF SIGNIFICANCE

The California Environmental Quality Act (CEQA) requires that each significant impact be identified in the Environmental Impact Report (EIR) (Public Resources Code Section 21082.2). In this Section, references to significant adverse impacts of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) Alternatives, including the Preferred Alternative, are made to fulfill the requirements of CEQA. The basis for the significance conclusions provided in this Section is the same technical reports and analyses as for the rest of this EIR/Environmental Impact Statement (EIS). No representation as to significance made in this Section represents an assessment of the magnitude of such an impact under the requirements of federal law. Under the National Environmental Policy Act (NEPA), no determination need be made for each environmental effect. The Council on Environmental Quality (CEQ) regulations implementing NEPA state that "significantly" as used in NEPA requires consideration of both context and severity/intensity. The CEQ regulations recognize that the significance of an action must be analyzed in several contexts such as the society as a whole, the affected region, the affected interests and the locality. Significance varies with the setting of the proposed action (40 CFR Section 1508.27).

For each environmental parameter, the thresholds of significance, consistent with the requirements of CEQA, are identified. These thresholds are the same considerations used in Section 4.0 (Affected Environment, Environmental Consequences and Mitigation Measures) to assess whether a potential impact of a SOCTIIP Alternative is adverse. Then, the significance of each adverse impact is identified before and after the application of mitigation. The CEQA level of significance after mitigation for each adverse impact is also identified.

7.2 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO TRAFFIC AND CIRCULATION

7.2.1 THRESHOLDS OF SIGNIFICANCE RELATED TO TRAFFIC AND CIRCULATION

7.2.1.1 Thresholds for Short-Term Impacts During Construction

A SOCTIIP Alternative would result in a significant adverse impact related to short-term traffic under CEQA if it:

- Causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system, resulting in a substantial increase in either thee number of vehicle trips, the volume to capacity ratio on roads or congestion at intersections.
- Exceeds either individually or cumulatively, a level of service standard established by a county congestion management agency for designated roads or highways.

7.2.1.2 Thresholds for Long-Term Impacts

A SOCTIIP Alternative would result in a significant impact under the CEQA related to transportation and circulation when:

- An arterial intersection, freeway/tollway ramp, and/or freeway/tollway mainline segment in the SOCTIIP traffic analysis study area does not meet the adopted level of service (LOS) performance

standards and, based on a comparison to the No Action Alternative, the LOS under a given SOCTIIP Alternative at that circulation facility exceeds the adopted LOS impact thresholds.

The LOS performance standards and impact thresholds that have been adopted by the various jurisdictional agencies in the study area were summarized in Section 3.0 (Traffic and Circulation).

7.2.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO TRAFFIC AND CIRCULATION

7.2.2.1 Short-Term Impacts during Construction

As described in Section 3.0, trips generated during construction, related to employee commute trips, materials import and excess fill export, could adversely impact traffic operations on area arterials. These trips would occur temporarily during construction and would vary depending on the local streets used for access/egress to/from the construction area, the number of trips and the time of day those trips are made. These trips are anticipated to result in short-term significant adverse impacts on traffic on area streets.

7.2.2.2 Long-Term Impacts

Table 7.2-1 provides a summary of the long-term adverse impacts of the SOCTIIP Alternatives related to transportation and circulation. Table 7.2-1 identifies the long-term impacts anticipated under each Alternative at intersection locations and freeway/tollway ramps in the study area based on the findings of the long-range (year 2025) analysis presented earlier in Section 3.0. Tables cited in this Section are provided following the last page of text in this Section. As indicated in Section 3.0, no freeway/tollway mainline segments in the study area were found to be adversely impacted by the SOCTIIP Alternatives. Table 7.2-1 also identifies the mitigation measures that are proposed to reduce or avoid adverse impacts as discussed earlier in Section 3.0, and the CEQA level of significance after mitigation. For each impact location, the scenario in which the impact occurs (i.e., committed versus build out circulation system and County of Orange versus OCP-2000 RMV land use plan) and the funding obligation for implementation of the circulation system improvements that serve as mitigation are noted.

7.2.2.3 Anlaysis of Alternatives with Existing Conditions as the Baseline for Impact Assessment

Detailed descriptions of weekday peak hour traffic conditions under the SOCTIIP build Alternatives, assuming committed circulation system improvements and anticipated future land use, including the 14,000 du proposed RMV plan, (i.e., year 2025 Scenario 1) are provided in Section 4.2 (Long-Range Traffic Conditions) in the SOCTIIP Traffic and Circulation Technical Report. Table 3.4-2, provided earlier in Section 3.4 (Operations Analysis Results), summarizes the locations on the study area circulation system where weekday peak hour deficiencies occur under existing conditions and with each build Alternative based on the performance criteria described in Section 3.2.3 (Performance Criteria for Operations). The following summarizes the number of weekday peak hour deficiencies under existing conditions and under the build Alternatives:

- Under existing conditions, deficiencies occur at three segments of I-5, 12 freeway/tollway ramps (nine I-5 ramps and three SR-241 ramps) and 10 intersections (six arterial-to-arterial and four arterial-to-freeway/tollway ramps).
- Under the build Alternatives that include the FTC-S toll road extension from Oso Parkway to I-5 with a Far East Corridor connection at I-5 (the FEC-M, FEC-W, ~~and~~ A7C-FEC-M and Preferred Alternatives), deficiencies occur at eight segments of I-5, 15 freeway/tollway ramps (12 I-5 ramps

and three SR-241 ramps) and 29 intersections (20 arterial-to-arterial and nine arterial-to-freeway/tollway ramps).

- Under the build Alternatives that include the FTC-S toll extension road from Oso Parkway to I-5 with a Central Corridor connection at I-5 (the CC Alternative), deficiencies occur at seven segments of I-5, 16 freeway/tollway ramps (13 I-5 ramps and three SR- 241 ramps) and 27 intersections (18 arterial-to-arterial and nine arterial-to-freeway/tollway ramps).
- Under the build Alternatives that include the FTC-S toll road extension from Oso Parkway to Avenida La Pata (the CC-ALPV and A7C-ALPV Alternatives), deficiencies occur at 10 segments of I-5, 16 freeway/tollway ramps (13 I-5 ramps and three SR-241 ramps) and 34 intersections (25 arterial-to-arterial and nine arterial-to-freeway/tollway ramps).
- Under the AIO Alternative, deficiencies occur at 12 segments of I-5, 16 freeway/tollway ramps (11 I-5 ramps and five SR-241 ramps) and 36 intersections (25 arterial-to-arterial and 11 arterial-to-freeway/tollway ramps).
- Under the I-5 Alternative, a deficiency occurs at one segment of I-5, 11 freeway/tollway ramps (eight I-5 ramps and three SR-241 ramps) and 31 intersections (24 arterial-to-arterial and seven arterial-to-freeway/tollway ramps).

Transportation Improvements

A detailed discussion of study area transportation improvements, including the identification of the adverse impacts and beneficial effects of the build Alternatives was provided earlier in Section 3.4.4 (Long-Range Traffic Conditions – Build Alternatives) and Section 3.6 (Long-Range Mitigation Measures). Transportation improvements presented in those Sections address the circulation system deficiencies in a comprehensive context, providing a mitigation program that would be implemented with future land use development and with implementation of a selected build Alternative. No additional mitigation is proposed for the impacts identified above (impacts of the build Alternatives in comparison to existing conditions) for the following reasons:

1. The appropriate mitigation is the implementation of the projects in the MPAH and RTP that are funded or have committed funding as described in Section 3.2.5 (Future Transportation System). This mitigation will occur based on existing plans and commitments separate from any SOCTIIP project.

2. Mitigation of these impacts is the responsibility of the other agencies or the development projects that will occur in accordance with adopted plans, policies and project approvals.

3. A comparison of project build out in 2025 to existing conditions in 2001 is not accurate or realistic because it overlooks significant changes that occur within the 2025 planning horizon. An unfair comparison for analysis of project impacts results if it is not recognized that changes during the planning horizon will occur due to future development and implementation of committed roadway projects.

4. The considerations identified in 1, 2 and 3 above, lead to the conclusion that it is not reasonable or feasible to provide mitigation for a SOCTIIP build Alternative compared to existing conditions. Mitigation will be provided as outlined in Section 3.6 (Long-Range Mitigation Measures).

7.2.2.4 Central Corridor-Complete/I-5 Confluence

The Central Corridor-Complete (CC) alignment confluence of the corridor and I-5 is south of the Avenida Pico/I-5 interchange in Orange County. This connection consists of transition ramps to southbound I-5 and from northbound I-5. The conceptual design of the CC alignment FTC-S/I-5 confluence also includes the construction of a northbound and southbound frontage road system parallel to I-5 between Avenida Pico and El Camino Real. Under the current design of the ramps there are peak hour deficiencies forecasted that can not be mitigated at the I-5/Avenida Pico interchange in all of the analysis scenarios (RMV 14, 000 du and 21,000 du, committed and MPAH) that include the CC alignment FTC-S/I-5 confluence. Under such conditions, it is possible that traffic at the interchange would backup onto I-5, reducing the effective capacity on I-5 and degrading the forecasted peak hour LOSs on I-5. Therefore, the CC alignment FTC-S/I-5 connection could potentially result in a congested interchange situation in southern Orange County.

Per Federal Highways Administration (FHWA) policy, the TCA included a potential mitigation redesign of the CC connection and I-5 geometrics in Section 3.0. If a CC alignment is ultimately selected as the project, the implementation of this potential mitigation measure would be negotiated with FHWA, as it is not proposed as part of the CC Alternative, but as mitigation. For a complete discussion of the impacts and mitigation associated with the CC-Alternative, refer to Sections 3.7.2 and 3.7.3.

7.2.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO TRAFFIC AND CIRCULATION

7.2.3.1 Short-Term Impacts during Construction

A Construction Traffic Management Plan (CTMP) will be prepared and implemented during all construction related activities. Even with the CTMP, it is possible that some streets may experience substantial short-term degradation in terms of level of service (LOS), congestion and delays. Therefore, even with mitigation, the short-term traffic adverse impacts during construction of the SOCTIIP build Alternatives are assumed to be significant.

7.2.3.2 Long-Term Impacts

As shown in Table 7.2-2, the following SOCTIIP build Alternatives will result in significant adverse impacts related to traffic and circulation which cannot be mitigated to below a level of significance:

Central Corridor-Complete (CC) Alternative.
Central Corridor- Avenida La Pata Variation (CC-ALPV) Alternative.
Alignment 7 Corridor-Avenida La Pata Variation (A7C-ALPV) Alternative.
Arterial Improvements Only Alternative (AIO).
I-5 Widening Alternative.

7.3 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO LAND USE AND PLANNING

7.3.1 THRESHOLDS OF SIGNIFICANCE RELATED TO LAND USE AND PLANNING

A SOCTIIP Alternative would result in significant impacts related to land use and planning if it:

- Conflicts with an adopted land use plan, plan policy or regulation of an agency with jurisdiction over the project, including but not limited to General Plans (GPs), Specific Plans (SPs), Local Coastal

Programs (LCPs) or Zoning Ordinances (ZOs) adopted for the purpose of avoiding or mitigating an environmental effect, or conflicts with the Camp Pendleton Integrated Land Use Management Plans (INRMP).

- Conflicts with any applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP).
- Physically divides an established community.

7.3.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE MITIGATION RELATED TO LAND USE AND PLANNING

7.3.2.1 Short-Term Impacts During Construction

The construction of the SOCTIIP build Alternatives may require the temporary use of land for use during construction only. This may include land to accommodate construction staging, materials storage, equipment storage and other activities during construction only. At the completion of the construction of a SOCTIIP build Alternative, these areas would no longer be needed for the SOCTIIP build Alternative. Remainder parcels used for temporary construction purposes would be anticipated to be sold or retained in the right-of-way, as appropriate. The short-term use of this land for the construction of the SOCTIIP build Alternatives would not be an adverse impact.

7.3.2.2 Long-Term Impacts

Table 7.3-1 summarizes the potential long-term land use impacts of the SOCTIIP Alternatives and identifies the significance of those impacts as required under CEQA. As shown, a number of the build Alternatives will result in significant adverse impacts related to conflicts with adopted land use plans and division of existing communities. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential land use impacts of the Preferred Alternative would be similar to the impacts of the A7C-FEC-M-Initial Alternative because the Preferred Alternative will be limited to a maximum of six general purpose lanes.

As of November 2002, preliminary information on the Southern Subregion NCCP was released regarding ten possible configurations for the South NCCP (South Orange County Coordinated Planning Process, http://pdsd.oc.ca.gov/soccpp/index.htm "Reserve Alternatives," (date accessed: October 2002)). The configurations vary from small to large areas of development in the undeveloped part of the SOCTIIP study area. At the time of preparation of this EIS/SEIR, information regarding these configurations was not available to assess whether or not any of the SOCTIIP build Alternatives would impact the design of that planned NCCP. A Notice of Intent to prepare an EIS/EIR for the Southern Subregion NCCP was published August 23, 2001 in the Federal Register (66 F.R. 44372). The Notice did not provide detailed information regarding the proposed Southern Subregion NCCP. Therefore, no evaluation was made for the potential impacts of the SOCTIIP Alternatives related to that threshold.

7.3.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO LAND USE AND PLANNING

Table 7.3-2 summarizes the potentially significant adverse land use impacts of the SOCTIIP Alternatives, proposed mitigation and the level of significance after implementation of the identified mitigation measures. As shown, the following Alternatives would result in significant unavoidable adverse impacts related to land use after mitigation:

FEC-W Alternative.

FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-FEC-M/Preferred Alternative.
A7C-ALPV Alternative.
AIO Alternative.
I-5 Alternative.

7.4 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO AGRICULTURAL RESOURCES

7.4.1 THRESHOLDS OF SIGNIFICANCE RELATED TO AGRICULTURAL RESOURCES

A SOCTIIP Alternative would result in significant impacts related to agricultural resources if it:

- Converts Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency (CRA), to non-agricultural use.
- Conflicts with existing zoning for agricultural use or a Williamson Act contract (agricultural preserve).
- Involves other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

In addition, the Caltrans Community Impact Assessment (CIA) Guidelines state that "The conversion of agricultural land to other uses may be a significant impact that cannot always be mitigated. In those situations, to satisfy the requirements under CEQA, the decision makers would have to conclude that social or economic factors do not make it feasible to mitigate the conversion." (Source: CIA, Caltrans Environmental Handbook, Volume 4, June 1997, pp. 51.)

7.4.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE MITIGATION RELATED TO AGRICULTURAL RESOURCES

7.4.2.1 Short-Term Impacts during Construction

Short-term impacts to agricultural resources are impacts due to construction that do not involve permanent conversion of agricultural resources to non-agricultural uses. This may include land to accommodate construction staging, materials storage, equipment storage and other activities during construction only. These impacts are not adverse.

7.4.2.2 Long-Term Impacts

Table 7.4-1 summarizes the potential long-term adverse impacts of the SOCTIIP Alternatives related to agricultural resources, including agricultural preserves, and identifies the significance of those impacts before mitigation. The potential agricultural impacts of the Preferred Alternative is similar to those of the A7C-FEC-M-Initial because project modifications do not substantially alter the path of the alignment-. The impacts of the Preferred Alternative are reduced when compared to the A7C-FEC-M-Ultimate because the Preferred Alternative is limited to six general purpose lanes. The amount of grazing land on RMV will be reduced by the approved Ranch Plan. Because the County determined that RMV could maintain their cattle with the reduced grazing land, the SOCTIIP impact to grazing land is not significant.

7.4.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO AGRICULTURAL RESOURCES

Table 7.4-2 summarizes the potentially significant adverse impacts of the SOCTIIP Alternatives related to agricultural resources, proposed mitigation and the level of significance after implementation of the identified mitigation measures. Table 7.4-2 has been updated to reflect the Preferred Alternative.

As shown, the following Alternatives would result in significant unavoidable adverse impacts related to agricultural resources after mitigation:

FEC-W Alternative.
FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-FEC-M/Preferred Alternative.
A7C-ALPV Alternative.
AIO Alternative.

7.5 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO SOCIOECONOMICS, ENVIRONMENTAL JUSTICE AND GROWTH INDUCEMENT

7.5.1 THRESHOLDS OF SIGNIFICANCE RELATED TO SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

An Alternative would result in a significant socioeconomic or environmental justice impact under CEQA if it:

- Adversely affects a disproportionately high number of minorities or low income individuals or households. This threshold is based on Executive Order 12898 (Environmental Justice).
- Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. This threshold is based on Appendix G in the CEQA Guidelines.
- Displaces substantial numbers of people, necessitating the construction of replacement housing elsewhere. This threshold is based on Appendix G in the CEQA Guidelines.
- Affects community cohesion by dividing existing neighborhoods or displacing community facilities or services. This threshold is based on Appendix G in the CEQA Guidelines.
- Results in the loss of greater than one percent of tax or other revenues that could impair a local jurisdiction or service provider from adequately providing the necessary services required and expected of the agency or jurisdiction. This threshold was defined to address potential physical effects of economic impacts from the SOCTIIP Alternatives.
- Results in the loss of a substantial number of jobs in any one jurisdiction or region. This threshold was identified to address potential economic effects of the SOCTIIP Alternatives.

An Alternative would be considered to result in a significant growth inducement impact if it:

- Induces substantial population growth in an area, either directly (for example, by proposing new homes or businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Fosters economic or population growth, or the construction of additional housing, either directly or indirectly.

- Removes obstacles to population growth.
- Encourages and facilitates other activities that could significantly affect the environment, either individually or cumulatively.

7.5.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO SOCIOECONOMICS, ENVIRONMENTAL JUSTICE AND GROWTH INDUCEMENT

Table 7.5-1 summarizes the adverse impacts of the SOCTIIP Alternatives related to socioeconomics, environmental justice and growth inducement. Table 7.5-1 identifies the potential short-and long-term adverse impacts under each Alternative, the mitigation measures proposed to reduce or avoid adverse impacts, and the CEQA level of significance of each impact after mitigation. The evaluation of the potential socioeconomic impacts of the Preferred Alternative is based on the same data as the A7C-FEC-M Initial Alternative because project modifications do not substantially alter the path of the alignment and because the Preferred Alternative will be limited to a maximum of six general purpose lanes. The Preferred Alternative does not displace any existing residences, businesses, or agricultural uses.

7.5.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO SOCIOECONOMICS, ENVIRONMENTAL JUSTICE AND GROWTH INDUCEMENT

As shown in Table 7.5-1, none of the SOCTIIP Alternatives would result in adverse impacts related to Environmental Justice. However, the following Alternatives would result in significant unavoidable adverse impacts related to socioeconomics:

CC Alternative.
A7C-ALPV Alternative.
I-5 Alternative.

All SOCTIIP build Alternatives and the No Action Alternatives could potentially contribute to impacts relating to facilitating or supporting growth in the study area. The facilitated growth, in and of itself is not an adverse impact. However, the effects of this facilitated growth could result in impacts on a variety of areas, including agricultural resources, hydrology/drainage, water quality, air quality, noise, biological resources, aesthetics, cultural resources, recreation, mineral resources, public services, and utilities and services. Potential impacts in these areas, as well as related mitigation measures, if appropriate, are discussed in the respective Cumulative Impacts sections addressing these issues.

7.6 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

7.6.1 THRESHOLDS OF SIGNIFICANCE RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

No thresholds of significance are available for pedestrian and bicycle facilities; however, since pedestrian and bicycle facilities may be considered public facilities and recreation facilities the same thresholds that apply to these facilities apply to pedestrian and bicycle facilities. A SOCTIIP Alternative would result in significant adverse impacts if it resulted in the following:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or performance objectives for pedestrian facilities, bicycle facilities and trail type facilities located within existing and proposed parks.
- Increases the use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Includes the construction of pedestrian and bicycle facilities which might have an adverse physical effect on the environment.

7.6.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

7.6.2.1 Short-Term Impacts during Construction

Short-term impacts to bicycle and pedestrian facilities during construction include air quality impacts, closures and re-routing of facilities during construction. On-road pedestrian and bicycle facilities would be re-routed with their associated roads during construction. Off-road bicycle and pedestrian facilities like regional riding and hiking trails would either be temporarily closed or re-routed during construction. Impacts to bicycle and pedestrian facilities during construction are summarized in Table 7.6-1 and are described in detail in Section 4.5. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential short-term impacts of the Preferred Alternative on pedestrian and bicycle facilities would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.6.2.2 Long-Term Impacts

Long-term impacts to bicycle and pedestrian facilities include permanent visual impacts to vistas along trails and permanent acquisition of trails. No long-term impacts are anticipated to occur at on-road pedestrian and bicycle facilities because these facilities occur along roads that will be provided either underpasses or overpasses during operation of the SOCTIIP Alternatives. The facilities are adjacent to roads and already have noise and air quality impacts and obstructed views, therefore no adverse air quality, noise or visual impacts to on-road pedestrian and bicycle facilities are anticipated to occur. Long-term impacts to pedestrian and bicycle facilities are summarized in Table 7.6-1 and are described in detail in Section 4.5. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential long-term impacts of the Preferred Alternative on pedestrian and bicycle facilities would be similar to the impacts of the A7C-FEC-M-Initial Alternative because the Preferred Alternative is limited to a maximum of six general purpose lanes.

7.6.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

As shown in Table 7.6-1, all of the SOCTIIP corridor Alternatives would result in significant adverse impacts to pedestrian and bicycle facilities after mitigation. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative on pedestrian and bicycle facilities would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.7 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO NOISE

7.7.1 THRESHOLDS OF SIGNIFICANCE RELATED TO NOISE

The thresholds used for assessing the significance of short-and long-term noise impacts associated with the SOCTIIP Alternatives, consistent with the requirements of CEQA, are described as follows.

Under CEQA, short-term noise levels from construction activities are measured against the applicable local municipality's Noise Ordinance to assess whether there are any short-term noise impacts. Construction activities complying with the applicable local Noise Ordinance are considered under CEQA to result in no significant adverse short-term noise impacts. Construction activities which result in short-term adverse noise levels which exceed the applicable local Noise Ordinance are considered significant. The Orange County Noise Ordinance was used to assess noise impacts from construction of the SOCTIIP build Alternatives on uses in unincorporated areas and the incorporated cities with the same Noise Ordinance as well as the Cities of Laguna Hills and San Juan Capistrano, which do not have relevant Noise Ordinances. The City of San Clemente Noise Ordinance was used to assess construction noise impacts of the SOCTIIP build Alternatives for land uses in the City of San Clemente.

To cause a significant adverse impact, a project alternative must first cause a substantial increase in future CNEL levels at a sensitive receptor.

An Alternative that causes a noise level increase of 3 dB or more is considered to result in a substantial noise increase. The increase in noise level caused by the Alternative is the difference in the future noises level with the project alternative and the future noise level without the project alternative. The increase in future noise levels with an Alternative, compared to existing conditions, will be a result of both the Alternative and overall growth in the region. If the noise level increase over existing conditions is greater than 3 dB and the Alternative causes more than 1 dB of this increase, that project alternative is considered to result in a substantial combined noise increase. If either increase is realized, a second condition must occur for a significant adverse noise impact to result from the Alternative.

The second condition that must occur for an impact to be considered significant and adverse in terms of the local municipalities' CNEL standards is that the increase results in a future noise level which exceeds the local municipalities' CNEL standard. All the municipalities in south Orange County have established an exterior residential CNEL standard of 65 CNEL. The County does not have an applicable noise standard relating to parks. However, all the Cities in the study area have established a 65 CNEL noise standard for parks. For all municipalities in the SOCTIIP study area, noise levels were evaluated at potentially impacted park picnic areas, playgrounds and areas of frequent human activity.

Analysis of impacts in terms of local municipalities' CNEL standards is applicable to areas along new roads constructed by the SOCTIIP Alternatives and along existing roads that will be modified by the SOCTIIP Alternatives (i.e., addition of lanes). It is also applicable to roads that will not be physically modified by the SOCTIIP Alternatives but on which traffic volumes will change as a result of the SOCTIIP Alternatives.

7.7.2 ADVERSE IMPACTS RELATED TO NOISE AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.7.2.1 Short-Term Impacts during Construction

Although construction noise represents a short-term impact on ambient noise levels, construction equipment and construction activities can generate high noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high

levels. For a summary of construction noise impacts, refer to Table 7.7-1. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential short-term noise impacts of the Preferred Alternative would be similar to the impacts of the A7C-FEC-M-Initial Alternative. Construction noise activities can be divided into the following five broad categories based on their potential to generate noise:

1. pile driving.
2. heavy grading.
3. general construction activities.
4. nighttime demolition.
5. haul routes.

Implementation of the mitigation measures provided earlier in Section 4.6 will reduce the construction related noise impacts for all the SOCTIIP build Alternatives, except the I-5 Alternative, to below a level of significance. The I-5 Alternative will include nighttime demolition along I-5. Measure 5 (Nighttime Demolition) reduces the impact of this activity, but not to below a level of significance. Measure N-5 allows residents to obtain hotel vouchers so that they can temporarily move out the impact zone of nighttime demolition. However, this is an inconvenience for the residents and many residents may prefer to stay in their residences and tolerate the demolition noise. Therefore, night construction noise impacts will not be mitigated to below a level of significance only for the I-5 Alternative and will remain significant after mitigation.

7.7.2.2 Long-Term Impacts

Noise levels were modeled for the SOCTIIP Alternatives to determine long-term impacts on sensitive receptors. These are the noise impacts from the noise generated on the highways that will be constructed or physically altered by the specific Alternative. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential long-term noise impacts of the Preferred Alternative would be similar to the impacts of the A7C-FEC-M-Initial Alternative. The Preferred Alternative will be limited to a maximum of six lanes. The analysis in Section 4.6.2 indicates that all of the build Alternatives result in an adverse noise impact and the only practical way to mitigate outdoor traffic noise levels is through the construction of noise barriers (Measure N-8).

The barrier will reduce the noise levels such that the build Alternatives will not cause a substantial noise increase (i.e., cause an increase of more than 3 dB) or contribute considerably to a substantial increase over existing conditions (i.e., cause an increase of more than 1 dB where the noise level is projected to increase over existing conditions by more than 3 dB). The barriers will mitigate this impact of the build Alternatives to below a level of significance.

7.7.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO NOISE REMAINING AFTER MITIGATION

All the significant adverse noise impacts along all the SOCTIIP build Alternatives would be mitigated to below a level of significance with the implementation of the mitigation measures discussed in Section 4.6. However, as discussed earlier in Section 4.6.4, there is a possibility that mitigation will not be implemented in all locations. If mitigation is not implemented at any location, for reasons outside the control of the implementing agency, there would be a significant adverse impact at those locations.

7.8 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO AIR QUALITY

7.8.1 THRESHOLDS OF SIGNIFICANCE RELATED TO AIR QUALITY

The South Coast Air Quality Management District (SCAQMD) has established specific thresholds to assist local agencies in determining when a project would contribute substantially to an existing or future violation of an air quality standard and thus have a significant effect on the environment in the South Coast Air Basin (SCAB). Because the San Diego Air Pollution Control District does not have recommended thresholds of significance for air quality impacts, the SCAQMD thresholds were used to evaluate air quality impacts in the San Diego Air Quality Basin. These thresholds are shown in Table 7.8-1. The TCA has identified these SCAQMD thresholds as appropriate for determining the significance of the potential air quality impacts of the SOCTIIP Alternatives.

Increases in CO concentrations are significant if they cause an exceedance of state 1-hour or 8-hour standards. Any project-related one-hour average increase in CO greater than one ppm is considered significant if background levels already exceed the state 1-hour CO standard. An 8-hour average increase in CO of 0.45 ppm is significant if background levels exceed the state eight-hour CO standard.

The SCAQMD CEQA Air Quality Handbook also contains quarterly thresholds of significance. However, the Handbook states that if emissions on an individual day exceed the daily thresholds shown in Table 7.8-1, project impacts should be considered significant and quarterly emissions need not be analyzed.

7.8.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO AIR QUALITY

Table 7.8-2 summarizes the short-and long-term air quality impacts and mitigation measures, by Alternative. As previously stated, the Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential air quality impacts of the Preferred Alternative would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.8.2.1 Short-Term Impacts during Construction

The short-term construction emissions due to the proposed build Alternatives with mitigation measures will be substantially reduced but cannot be mitigated to below a level of significance, for all the SOCTIIP build Alternatives, as shown in Table 7.8-2.

7.8.2.2 Long-Term Impacts

Regional air quality emissions decrease from existing conditions with or without the SOCTIIP Alternatives. The amount of HC, CO and NOx emissions decrease in future years compared to existing conditions. PM_{10} emissions increase in future years compared with existing conditions, although during intervening years, prior to 2025, the emissions are reduced. Overall, regional air quality indicated by traffic emissions will be better in future years compared to existing conditions.

There are overall reductions in operational emissions of the Preferred Alternative when compared to the A7C-FEC-M Ultimate Alternative because the Preferred Alternative is limited to a maximum of six lanes.

The long-term regional air quality impact due to the SOCTIIP build Alternatives with mitigation measures will be reduced, however there remains a significant adverse impact for NO_x emissions for all Alternatives as NO_x emissions exceed significance thresholds.

7.8.2.3 Toxic Air Contaminants

Overview of Analysis Process

The air quality analysis for the SOCTIIP included a toxic air contaminants (TAC) evaluation, focused on diesel particulate matter (DPM). That evaluation is provided in Appendix B of the Air Quality Assessment (Mestre Greve Associates, 2003) and is summarized in this Section,

In 1998 the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines (Diesel Particulate Matter or DPM) as a Toxic Air Contaminant (TAC). As a part of the identification process, the ARB's Office of Environmental Health Hazard Assessment (OEHHA) evaluated the potential for DPM to affect human health. The OEHHA found that exposures to DPM resulted in an increased risk of cancer and an increase in chronic non-cancer health effects including a greater incidence of cough, labored breathing, chest tightness, wheezing, and bronchitis. DPM is one of several airborne TACs. ARB and South Coast Air Quality Management District (SCAQMD) studies show that DPM contributes approximately 71% of the potential inhalation cancer risk.

During an exhaustive 10-year scientific process, the OEHHA found that exposures to DPM resulted in an increased risk of cancer and an increase in chronic non-cancer health effects including a greater incidence of cough, labored breathing, chest tightness, wheezing, and bronchitis. The OEHHA estimated that based on available studies, the potential cancer risk from exposure to DPM of 1 microgram per cubic meter ($\mu g/m^3$) ranged from 130 to 2,400 excess cancers per million. The ARB's Scientific Review Panel (SRP) approved the OEHHA's determination concerning health effects and approved these values as the range of risk for DPM. This wide range demonstrates the uncertainty in the cancer risk from DPM. The SRP concluded that a value of 300 excess cancers per million people per $\mu g/m^3$ of DPM was appropriate as a point estimate of unit risk factor (URF) for DPM. There is not yet a scientific consensus concerning the appropriate URF for DPM. As of early 2002, the EPA decided that the literature did not support identifying a URF for DPM.

To address the impacts of DPM, the ARB and EPA have enacted new diesel fueled vehicle emissions standards and diesel fuel rules that will go into effect in 2007. New emissions control measures will be required for new vehicles and reformulated diesel fuels are required to enable these measures. The emissions calculations in this report used EMFAC2002 to calculate emission factors. EMFAC2002 is a computer model published by the ARB that calculates vehicular emission factors. Emission factors calculated with EMFAC2002 include the effects of the new diesel fueled vehicle emissions standards.

A general examination of the potential impacts of DPM associated with the SOCTIIP Alternatives was conducted. At this time, tools and methodologies for assessing DPM impacts are limited, and not all state and federal transportation agencies even agree that DPM impacts can be modeled in a meaningful way. The TCA as the Lead Agency under CEQA determined that general interim methodologies developed by the SCAQMD and the ARB were appropriate to use to develop an estimate of the DPM related impact of the SOCTIIP Alternatives. This study examined potential DPM impacts in two areas, at the northern end of the proposed corridor build Alternatives south of Antonio Boulevard, and along-I-5 as it passes through San Clemente south of Avenida Pico. All the proposed corridor build Alternatives have similar alignments at the north end. A generalized alignment was modeled under the initial configuration (i.e., a four-lane highway) and ultimate configuration (i.e., an 8-lane highway). Concentrations and health risks are calculated for receptors along the roadway and at the nearest existing residential uses. Concentrations were modeled for receptors along the corridor build Alternatives for three scenarios, Initial, Initial widened to the Ultimate in 2025 and Ultimate. Concentrations were modeled for receptors along I-5 for four scenarios; no project conditions, I-5 Widening alternative conditions, corridor build conditions where the corridor intersects I-5 near Avenida Pico, and corridor build conditions where the corridor intersects I-5 near the Orange County/San Diego County border.

Specific detailed methodologies for assessing the impacts of DPM for roadway construction projects have not been developed. General interim methodologies have been developed. SCAQMD has published "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions," to assess impacts of DPM near truck stops and warehouse facilities. Further, in their "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel Fueled Engines and Vehicles," the ARB modeled several "Risk Characterization Scenarios," two of which were high and low volume freeways. The methodology used in this analysis was developed from these two sources. The process involves calculating DPM concentrations along the road using a dispersion model. The resulting concentrations are then multiplied by a Unit Risk Factor (URF) to determine the potential cancer risk from the DPM. To determine the non-cancer risk, the concentration is divided by the Reference Exposure Level (REL) to determine the Hazard Index.

Appendix B in the Air Quality Assessment provides a detailed discussion of the dispersion modeling parameters used in this analysis. The CAL3HCR model was used for the dispersion modeling with one year of weather data from John Wayne Airport (the closest weather data available). The goal of the dispersion modeling effort is to determine the concentrations of DPM. Therefore, only diesel particulate emissions are modeled. Emission factors used in the analysis were generated by the EMFAC2002 (version 2.2) model published by the ARB. This model provides the most current available data for motor vehicle emissions in the State of California. The calculation of cancer risk assumes exposure to DPM for a 70-year period. In the future, emissions of DPM will be reduced through implementation of emissions control measures and fleet turnover (i.e., the replacement of older vehicles with new vehicles). To account for this, a time averaged emission factor was calculated. Emissions factors for 2010, 2020, 2030 and 2040 were calculated using the EMFAC2002 program (2040 is the furthest year in the future that the model projects). Assuming an opening year of 2008 for the project, the average emission factor for the 70-year period was calculated by multiplying the 2010 emission factor by 7 years, the 2020 and 2030 emission factors by 10 years each and the 2040 emission factor by 43 years. These values were then summed and divided by 70 years to give the 70-year average emission factor.

Table 2.1-1 in Appendix B in the Air Quality Assessment shows the calculated average emission factors for vehicles on I-5. The percentage of diesel-fueled vehicles is important because the total number of vehicles on a road affects how pollutants disperse from the road. To accurately include the effects of all the vehicles on the road on pollutant dispersion, the total traffic volume needs to be input into the model. Then the average DPM emission factor per diesel fueled vehicle is multiplied by the percentage of diesel

vehicles to obtain the average DPM emission factor for all vehicles on the road. This emission factor was then entered into the dispersion model.

Along the northern extent of the corridor build Alternatives, the future traffic volumes are projected to be different under conditions with and without tolls. Therefore, DPM concentrations were calculated separately under both conditions and the average taken. Based on data collected on existing SR-241, the truck mix expected on the corridor alternatives is 3% heavy trucks and 3% medium trucks. Table 2.1-2 in Appendix B in the Air Quality Assessment presents the average diesel vehicle PM_{10} emissions for vehicles on the corridor for 2010, 2020, 2030 and 2040.

The earliest the corridor Alternatives would enter toll free conditions is 2025. Toll-free conditions would likely not occur until much later, after 2040. As the traffic volume along the corridor is much greater under toll free conditions (approximately 43% greater), the earlier the corridor enters toll free conditions, the higher the 70-year average DPM concentrations along the corridor. Therefore, assuming that toll free conditions start in 2025 is a worst-case assumption. Table 2.1-3 shows the average emissions for the assumed toll years (2008-2025) and toll-free years (2026-2078). The 2008-2025 emission factor was calculated by averaging over the entire 17 year period the 2010 emission factor that will occur over 7 years and the 2020 emission factor that will occur over 10 years. The 2025-2078 emission factor was calculated by averaging over the entire 53 year period the 2030 emission factor that will occur over 10 years and the 2040 emission factor that will occur over 43 years. EMFAC2002 only calculates emission factors out to the year 2040. 2040 emissions are the most representative of years after 2040 as no other data source is available. Some additional reduction in emissions would be expected in the years past 2040 due to advances in emissions reduction technology. Therefore, the use of 2040 emissions represents a worst-case assumption. The results of these calculations are presented in Table 2.1-3 in Appendix B in the Air Quality Assessment. The average DPM emissions from diesel-fueled vehicles are shown along with the average DPM emissions for all vehicles on the road for the two time periods.

To calculate the 70-year average DPM concentrations along the corridor, the CAL3QHCR model was run twice, once with the 2008-2025 average emission factors and toll traffic conditions and once with the 2026-2078 average emission factors and no-toll traffic conditions. The 70-year DPM concentrations were calculated by averaging over the entire 70 year period the 2008-2025 concentrations that will occur over 17 years and the 2026-2078 concentrations that will occur over 53 years.

Two corridor scenarios were modeled, the initial, a 4-lane highway, and the ultimate, a 8-lane highway. For each, the traffic volumes are the same but the speeds vary because there would be more congestion on the smaller facility. The hourly volumes and speeds used for the modeling along the corridor are presented in Table 2.1-6 in Appendix A in the Air Quality Assessment.

This analysis is intended to describe potential impacts of DPM emissions on health risks of people living adjacent to I-5 and the northern extent of the proposed corridor in a general manner. This analysis does not analyze specific residential areas, but rather analyzes the entire area along the I-5 through San Clemente and the northern extent of the corridor build Alternatives in a general approach. The roadway geometry that is assessed in the modeling effort generally represents the roadway alignment of the I-5 through San Clemente, south of Avenida Pico and the alignment of the northern extent of proposed corridor build Alternatives south of Antonio Parkway. Existing and design roadway widths were used for the modeling.

Determination of Cancer Risk

The cancer risks from DPM occur exclusively through the inhalation pathway. The inhalation unit risk factor for diesel particulate was established by ARB as 300 in one million per continuous exposure of 1

$\mu g/m^3$ of DPM over a 70-year period (Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values, November 7, 2002). Therefore, if a group of one million people were living in an area exposed to a concentration of 1 $\mu g/m^3$ of DPM over a 70-year period, 300 of them would have an increased risk of contracting cancer as a result of the exposure. If the concentration is lower, the corresponding exposure and risk are also lower.

A 70-year lifetime exposure is assumed for all receptor locations except for off-site workers (i.e., receptor locations in commercial or industrial areas). The LEA for all residential or sensitive receptors is 1.0. To account for the fact that people working in the area are exposed to DPM for less time, the LEA for off-site workers is 0.14. Health risks for people working in the vicinity of DPM concentrations are lower than residents because their cumulative exposure is lower. People who actually live in areas of higher concentrations have a higher risk because they have a higher exposure. Exposures to school children are even lower than for workers because they spend about the same amount of time per day at school as a worker does at work but this only occurs for a maximum of 12 years rather than the 70-year lifetime exposure used to determine cancer risk.

Determination of Non-Cancer Risks

The relationship for the non-cancer health effects of DPM was assessed based on an equation which considered the Hazard Index (HI) which is an expression of the potential for non-cancer health effects; the annual average DPM concentration ($\mu g/m^3$)' and the Reference Exposure Level (REL) for DPM which is the DPM concentration at which no adverse health effects are anticipated. The chronic REL for DPM was established by OEHHA as 5 µg/m3.

Threshold of Significance for DPM

The SCAQMD CEQA Handbook has established a cancer risk significance threshold to evaluate the incremental health impact levels associated with projects in the SCAB (Section 6.2). This threshold is 10 in one million (i.e., 1.0×10^{-5}). The Handbook was published in 1993. Although portions of it have been subsequently updated, this threshold has not changed. The SCAQMD has recently reaffirmed this threshold (Comment letter from SCAQMD on Draft Environmental Impact Report No. 573 dated February 22, 2000 signed by Steve Smith, SCAQMD Program Supervisor, Planning, Rules, and Area Sources.) Additionally, a review of thresholds of significance by regulation or adopted by various agencies was undertaken. Over thirty documents with references to acceptable levels of cancer risk were reviewed. This review indicated that the 10 in one million is an appropriate threshold of significance for evaluating significance of cancer risk from DPM. This equates to a concentration of DPM of 0.0333 $\mu g/m^3$ for a residential receptor. Criteria developed in SCAQMD's "Risk Assessments Procedures for Rules 1401 and 212" was used to evaluate non-cancer impacts. A Hazard Index greater than 1 is considered significant.

DPM Impact Analysis Along I-5

Four scenarios were modeled along I-5 as it passes through San Clemente to characterize how DPM risks may be affected by the project in this area:

- No project scenario.
- I-5 Widening Project Alternative Scenario
- Scenario where a corridor is constructed that intersects I-5 at Avenida Pico, which is representative of the CC Alternatives.

- Scenario where a corridor is constructed that intersects I-5 near the Orange County/San Diego County border which is representative of the FEC-M, FEC-W~~, and~~ A7C-FEC-M, and Preferred Alternatives.

Modeled Concentrations

Table 7.8-2A presents the modeled 70-year average DPM concentrations along I-5 for the four scenarios. Concentrations were modeled for six receptors, three on either side of I-5 at distances of 6.1 meters (m), 20 feet (ft), 30.5m (100 ft) and 122.0m (400 ft). Table 7.8-2A shows that concentrations on the inland side of I-5 (that is, the side of I-5 to the northeast) are greater than on the coastal side of I-5. Concentrations decrease relatively rapidly as the distance from the road increases.

Calculated Cancer Risks

Table 7.8-2B presents the cancer risk calculated from the concentrations presented in Table 7.8-2A and the equation described earlier. The highest non-residential cancer risk would be 8.9 which is not significant (non-residential cancer risks can be determined by multiplying the values in Table 7.8-2B by 0.14 to account for the decreased exposure time). The cancer risk per million is presented for the six receptors and four scenarios. The last three columns in Table 7.8-2B compare the I-5 widening and corridor build conditions with the No Action conditions.

Table 7.8-2B shows that cancer risks along I-5 are in excess of the significance threshold of 10 in one million. Along the inland side of the freeway the risk exceeds the significance threshold more than 122m (400') from the roadway. Along the coastal side, residences within about 61m (200') are exposed to DPM that results in a cancer risk in excess of the significance threshold. This occurs under the no project conditions as well as the corridor build conditions. These results are lower than the findings of the SCAQMD MATES-II report and ARB Diesel Risk Reduction plan. This is due to the use of newer emission factors that include DPM reduction measures that will be implemented in the future. These reduction measures were developed after the MATES-II study and in conjunction with Diesel Risk Reduction Plan and are not reflected in those reports.

The third and second to last columns show that the I-5 widening and corridor build option where a connection would be made at Avenida Pico result in only a slight increase in cancer risk. The significance threshold was developed to assess the incremental impact of a project accounting for the fact that other risk sources exist. The increase in cancer risk due to the project is much less than the significance threshold. Therefore, the implementation of the corridor build Alternatives with a connection at Avenida Pico would not result in a significant adverse impact related to increased cancer risk along I-5 as a result of increased DPM exposure.

The last column of Table 7.8-2B shows that implementation of a corridor build Alternative where the corridor connects to I-5 near the Orange County/San Diego County border would reduce cancer risks along I-5 through San Clemente. This is due to lower traffic volumes on the freeway. The greatest reductions in risk would occur closest to I-5. The reductions of cancer risk over the no project conditions are less than the significance threshold. Because the implementation of the corridor build Alternatives with a connection to I-5 at the Orange County/San Diego County border would actually decrease cancer risk along I-5, they would not result in a significant impact.

The greatest reductions in risk with the corridor build Alternative where the corridor connects to I-5 near the Orange County/San Diego County border compared to the I-5 Widening Alternative and the corridor build Alternative where the connection is made to I-5 at Avenida Pico approaches the 10 per million significance threshold. The reduction in risk with the corridor build Alternative with the Orange

County/San Diego Count border connection varies in magnitude from a minor decrease to a more substantial decrease of 6.5 in one location.

Calculated Non-Cancer Risks

Table 7.8-2C presents the non-cancer risk calculated from the concentrations presented in Table 7.8-2A and the equation discussed earlier. The Hazard Index is presented for the six receptors and four scenarios. The last three columns in Table 7.8-2C compare the corridor build conditions with the no project conditions.

Table 7.8-2C shows that Hazard Indices along I-5 are well below the significance threshold of 1. Therefore, there are no significant non-cancer health impacts along I-5 either with or without the project. The last three columns show that the effects of implementation of the corridor build Alternatives would vary from a very slight reduction (most of the locations with the connection at the San Diego County border), to only a slight increase with the I-5 Widening or Avenida Pico connection.

Impact Analysis Along Corridor Build Alternatives

DPM concentrations were modeled for ten receptors along the northern extent of the corridor build Alternatives. Five receptors were located along either side of the corridor at distances of 6.1m (20'), 15.2m (50'), 30.5m (100'), 381m (1250'), and 762m (2500'). At the northern extent of the corridor build Alternatives, the nearest residential receptors are 762m (2500') from the corridor. There is a non-residential receptors located adjacent to the corridor (Tesoro High School).

Modeled DPM Concentrations

Table 7.8-2D presents the modeled DPM concentrations along the northern extent of the corridor build Alternatives for the two corridor configurations, the initial 4-lane, and ultimate 8-lane corridors under with and without toll conditions. As discussed above, there is a substantial difference in the traffic volumes under the toll and toll-free conditions. The earliest the corridor would become toll-free is 2025. Because the toll-free traffic volumes are greater than the toll volumes, assuming this transition (toll to toll-free) occurs earlier results in the highest projected DPM concentrations. Concentrations are presented for the 2008-2025 time period which assumes toll conditions and for the 2026-2078 time period which assumes toll free conditions.

The concentrations in Table 7.8-2D were averaged to determine 70-year average concentrations for three scenarios:

- The first scenario assumes that an initial (4-lane) corridor is constructed and is not widened to the ultimate (8-lane) corridor in the 70-year analysis period.
- The second scenario assumes that the initial four lane corridor is constructed and ~~these in~~ is widened to the ultimate eight lane corridor in 2025.
- The third scenario assumes the ultimate eight lane corridor is constructed and remains as eight lanes for the entire 70-year analysis period.

All these scenarios assume toll traffic volumes for the 2008-2025 time period and toll free traffic volumes for the 2026-2078 time period. The resulting 70-year average concentrations are presented in Table 7.8-2E.

Calculated Cancer Risks

Table 7.8-2F presents the cancer risk calculated from the concentrations presented in Table 7.8-2E and the equation discussed earlier. The highest non-residential cancer risk would be 1.7 which is not significant (non-residential cancer risks can be determined by multiplying the values in Table 7.8-2F by 0.14 to account for the decreased exposure time). The cancer risk per million is presented for the ten receptors and three scenarios.

Table 7.8-2F shows that cancer risks are projected to exceed the cancer risk significance threshold of 10 per million directly along the corridor to the west at a distance of 6.1m (20') from the edge of the corridor. The typical right-of-way for the corridor build Alternatives includes at least 20 feet from the edge of the travel way; in most cases there is an even greater distance of 28 to 34 feet. At 15.2m (50') and beyond, increases are below the threshold of significance. In most cases, any receptors would be located outside the area with a significant cancer risk. The nearest existing residential receptors at the northern extent of the corridor are located 762m (2500') feet from the corridor where the cancer risk is well below the threshold. Therefore, the corridor build Alternatives will not result in a significant adverse impact related to increased cancer risks as a result of increased DPM exposure along the northern extent.

Several corridor Alternatives pass directly adjacent to residential developments near the southern extent (north of the connection with I-5). However, traffic volumes at the southern extents of the corridors are lower than at the northern extent, which was the area that was modeled for this analysis. To estimate the DPM concentrations at the southern end of the corridor they can be scaled by the ratio of traffic volumes at the northern and southern end. Note that this analysis does not take into account the different alignments of the corridor Alternatives at the southern end but provides a reasonable estimate of the concentrations. This analysis shows that the traffic volumes are lowered such that DPM concentrations would be reduced as to not result in a cancer risk greater than 10 per million. Therefore, it is expected that the corridor build Alternatives would not result in a significant adverse impact related to increased cancer risks as a result of increased DPM exposure along the southern extents.

Calculated Non-Cancer Risks

Table 7.8-2G presents the non-cancer risk calculated from the concentrations presented in Table 7.8-2E and the equation discussed earlier. The Hazard Index is presented for the ten receptors and three scenarios. Table 7.8-2G shows that Hazard Indices along the northern extent of corridor build Alternatives are well below the significance threshold of 1. As discussed above, traffic volumes along the corridor build Alternatives are projected to be lower as the corridor extends south. This results in lower DPM concentrations along the corridor build Alternatives to the south and correspondingly lower Hazard Indices on the southern segments of the corridor Alternatives. Therefore, there are no significant adverse non-cancer health impacts related to DPM along the corridor build Alternatives.

Mitigation

None of the SOCTIIP Alternatives by itself is projected to result in a significant impact and no mitigation is required. Congestion and slow speeds result in greater DPM emissions, concentrations and cancer risks compared to congestion free facilities. Reducing traffic congestion is a primary purpose of the project. No other project specific mitigation for DPM is available for a transportation facility where vehicles are moving at a steady pace on the facility. The reduction of DPM is planned on a statewide basis by CARB and EPA through emission standards and fuels as noted in Section 1.1, Background on Diesel Particulates. Other potential mitigation for DPM has focused on facilities with concentrations of trucks such as truck stops and warehouse distribution centers where operations can be controlled; this type of mitigation is not applicable to a public roadway.

7.8.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO AIR QUALITY

As shown in Table 7.8-2, the following Alternatives will have significant adverse construction impacts associated with CO, HC, NO_x and PM_{10} emissions.

FEC-W Alternative.
FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-FEC-M/Preferred Alternative.
A7C-ALPV Alternative
AIO Alternative.
I-5 Alternative.
No Action Alternative – RMV Development Plan.

Also shown in Table 7.8-2, the following Alternatives would have significant adverse operations impacts due to NO_x that exceed the SCAQMD thresholds:

FEC-W Alternative.
FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative
A7C-FEC-M/Preferred Alternative.
A7C-ALPV Alternative.
AIO Alternative.
I-5 Alternative.

The I-5 Alternative will also have significant adverse impacts due to HC that exceeds the SCAQMD threshold. The No Action Alternative results in significant increases in emissions for HC and CO. As discussed above, the SOCTIIP alternatives will not result in significant adverse cancer and non-cancer impacts related to DPM.

7.9 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO WATERWAYS, FLOODPLAINS AND HYDROLOGIC SYSTEMS

7.9.1 THRESHOLDS OF SIGNIFICANCE RELATED TO WATERWAYS, FLOODPLAINS AND HYDROLOGIC SYSTEMS

A SOCTIIP Alternative would result in significant impacts related to waterways, floodplains and hydrologic systems if it:

- Substantially depletes groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Creates or contributes runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Places housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other hazard delineation map.
- Places structures within a 100-year flood hazard area which would impede or redirect flood flows.
- Exposes people or structures to significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Expose people or structures to significant risk of loss, injury or death involving inundation by seiche, tsunami or mudflow.

7.9.2 ADVERSE IMPACTS RELATED TO WATERWAYS, FLOODPLAINS AND HYDROLOGIC SYSTEMS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

No adverse impacts related to waterways, floodplains and hydrologic systems would occur due to loss of wells, lowering of groundwater levels, and encroachment into the 100-year floodplain of a watershed with the incorporation of Project Design Features (PDFs). No significant risks related to loss, injury of death due to flooding by failure of levee or dam or seiche, tsunami or mudflow are expected to occur as a result of the SOCTIIP Alternatives.

7.9.2.1 Short-Term Impacts during Construction

With the incorporation of (PDFs), implementation of the Storm Water Management and the Storm Water Pollution Prevention Plan, short-term impacts for construction activities are managed and do not result in a significant adverse impact.

7.9.2.2 Long-Term Impacts

FEC-W Alternative

The FEC-W Alternative will not result in significant adverse impacts related to encroachment, reduction in floodplain and channel size at Cañada Gobernadora, San Juan Creek, San Mateo Creek or San Onofre Creek.

FEC-M Alternative

The FEC-W Alternative will not result in significant adverse impacts related to encroachment, reduction in floodplain and channel size at Cañada Gobernadora, San Juan Creek, San Mateo Creek or San Onofre Creek.

CC Alternative

The CC Alternative would result in significant adverse impacts due to a longitudinal encroachment of the roadway embankment on the Cañada Chiquita floodplain, just north of the confluence with San Juan Creek. These effects, which consist of impacts to existing floodplain and erosion and sedimentation patterns, could be avoided by the implementation of design refinements to the CC Alternative, based on more detailed hydraulic analyses. Such refinements may include shifting the horizontal alignment of the highway to the west such that the embankment did not encroach onto the Cañada Chiquita floodplain. With the incorporation of the PDFs, this impact will be mitigated.

The culvert crossings for the CC Alternative at Cañada Chiquita and Segunda Deshecha Cañada have not been designed. It is anticipated that any possible adverse impacts to floodplain or sedimentation and scour may be avoided. The final design of these crossings, based on more detailed hydraulic analyses, will include project features to minimize adverse impacts to the existing floodplain as well as existing erosion and sedimentation patterns. With the incorporation of the PDFs, this impact will be mitigated.

A7C-ALPV Alternative

The A7C-ALPV Alternative would result in significant adverse impacts due to the east-west connector crossing at Cañada Chiquita. These effects, which consist of impacts to the existing floodplain and potential changes to erosion and sedimentation patterns may be avoided by the implementation of design refinements to the A7C-ALPV Alternative, based on more detailed hydraulic analyses. These refinements could include adjustments to the highway embankment fill such that the east-west connector crossing did not encroach onto Cañada Chiquita. With the incorporation of the PDFs presented, this impact will be mitigated.

The A7C-ALPV Alternative may pose adverse impacts on the culvert crossing at Segunda Deshecha Cañada; however, this crossing has not been designed. It is anticipated that the final design of this crossing, based on more detailed hydraulic analyses, will include project features to minimize adverse impacts to the existing floodplain as well as existing erosion and sedimentation patterns. With the incorporation of the PDFs presented, this impact will be mitigated.

A7C-FEC-M Alternative

The A7C-FEC-M Alternative will not result in significant adverse impacts related to encroachment, reduction in floodplain and channel size at San Juan Creek, San Mateo Creek or San Onofre Creek. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative to waterways, floodplains, and hydrologic systems would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

AIO and I-5 Alternatives

The AIO and I-5 Alternatives will not have any significant adverse impacts to waterways, floodplains and hydrologic systems because they are in developed areas and all drainages have been placed in concrete channels which are anticipated to accommodate the flows associated with the improvements under these Alternatives.

7.9.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO WATERWAYS, FLOODPLAINS AND HYDROLOGIC SYSTEMS REMAINING AFTER MITIGATION

No significant adverse impacts for floodplains and hydrologic systems remain with the incorporation of the PDFs.

7.10 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO WATER QUALITY

7.10.1 THRESHOLDS OF SIGNIFICANCE RELATED TO WATER QUALITY

A SOCTIIP Alternative would result in significant impacts related to water quality if it:

- Violates any water quality standards or waste discharge requirements.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Creates or contributes runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff.
- Substantially degrades water quality.

7.10.2 ADVERSE IMPACTS RELATED TO WATER QUALITY AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.10.2.1 Short-Term Impacts during Construction

The short- and long-term impacts of the SOCTIIP Alternatives related to water quality are discussed in Section 4.9. Mitigation measures and their applicability are shown in Table 4.9-7. Most construction impacts of the SOCTIIP build Alternatives related to water quality would be due to increased silt and sediment load carried by runoff from unpaved areas during construction and spills of pollutants from construction staging areas. These impacts would be prevented, controlled and/or mitigated, as appropriate with Project Design Features (PDFs) and with the implementation of the Storm Water Management Plan (SWMP) and Storm Water Pollution Prevention Plan (SWPPP).

7.10.2.2 Long-Term Impacts

Long-term impacts of the SOCTIIP build Alternatives related to water quality (SWMP) are substantially mitigated with the incorporation of PDFs.

Most specifically, PDFs substantially reduce adverse impacts for erosion and sedimentation. For the CC Alternative, at the Cañada Chiquita and Segunda Deshecha Cañada crossings adverse impacts for erosion and sedimentation are minimized with the PDFs. For the CC-ALPV Alternative, adverse impacts for erosion and sedimentation at the Cañada Chiquita and Segunda Deshecha Cañada crossings are minimized with the PDFs. For the A7C-ALPV Alternative, adverse impacts for erosion and sedimentation at Cañada Chiquita are minimized with the PDFs.

7.10.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO WATER QUALITY REMAINING AFTER MITIGATION

The potentially significant short-term adverse impacts of the SOCTIIP build Alternatives to water quality would be mitigated to below a level of significance, based on implementation of the PDFs, SWMP and SWPPP and mitigation measures described in Section 4.9.

7.11 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO WETLANDS AND WATERS OF THE UNITED STATES

7.11.1 THRESHOLDS OF SIGNIFICANCE RELATED TO WETLANDS AND WATERS OF THE UNITED STATES

In accordance with the requirements of CEQA, impacts to wetlands resources will individually or cumulatively be considered significant if they:

- Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act, California Department of Fish and Game or California Coastal Commission, including but not limited to marsh, coastal, etc. through direct removal, filling, hydrological interruption or other means.

7.11.2 ADVERSE IMPACTS RELATED TO WETLANDS AND WATERS OF THE UNITED STATES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.11.2.1 Short-Term Impacts during Construction

There will be a variety of impacts to wetlands and Waters of the United States from implementation of any of the SOCTIIP Alternatives. This will include filling wetlands, as well as short-term disturbance from construction generated erosion and water quality disturbance. However, due to Federal, State, and local requirements, the SOCTIIP Alternatives are required to implement measures to ensure that there is no net loss of wetlands and water quality is protected from degradation as a result of construction.

7.11.2.2 Long-Term Impacts

Long-term impacts to waters and wetlands without mitigation could include degradation of water quality associated with increased velocity of runoff or contaminants being transported into waterways. These impacts will be prevented, controlled and/or mitigated to below a level of significance, as appropriate, based on implementation of Best Management Practices (BMPs) incorporated in the Resource Management Plan (RMP).

7.11.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO WETLANDS AND WATERS OF THE UNITED STATES REMAINING AFTER MITIGATION

Because the project will implement mitigation measures to replace the functions and values of waters and wetlands impacted by the project and implement BMPs to avoid water quality degradation, the impacts are considered mitigated as shown in Table 7.11-1.

7.12 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO WILDLIFE, FISHERIES AND VEGETATION

The following discussion addresses the impacts to wildlife, fisheries, and vegetation; however, as related specifically to the impacts to jurisdictional wetlands or endangered and threatened species, see sections 7.11 and 7.13 respectively. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative to wildlife, fisheries, and vegetation would be similar to the impacts of the A7C-FEC-M-Initial Alternative. The Preferred Alternative will be limited to a maximum of six lanes. The potential impacts of the Preferred Alternative related to wetlands or endangered and threatened species are also evaluated in Sections 7.11 and 7.13, respectively.

7.12.1 THRESHOLDS OF SIGNIFICANCE RELATED TO WILDLIFE, FISHERIES AND VEGETATION

In accordance with the requirements of CEQA, impacts to wildlife, fishery, and vegetation resources will individually or cumulatively be considered significant if they:

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the CDFG or USFWS.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance.

7.12.2 ADVERSE IMPACTS RELATED TO WILDLIFE, FISHERIES AND VEGETATION AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.12.2.1 Short-Term Impacts during Construction

Wildlife

Amphibians

Construction of the SOCTIIP Alternatives would require the removal of several habitat types which are suitable for amphibians (vernal pools, seeps and wet meadows/marsh; riparian; and woodland communities/lakes; reservoirs, and basins/watercourses) as shown in Tables 4.11-4 and 4.11-5. These communities provide important breeding habitat for many species of amphibians, including several which are considered sensitive. Some of the prominent drainages crossed by these Alternatives, such as San Juan, San Mateo, and San Onofre creeks, provide particularly valuable habitat for breeding amphibians. Consequently, all sensitive amphibian species that occur or have a moderate potential to occur, such as western spadefoot, would suffer adverse impacts from the project alternatives. However, due to their current status and relative abundance elsewhere in the subregion, the loss of these amphibian species would be less than significant.

Reptiles

Construction of the SOCTIIP Alternatives would remove several suitable habitat types for reptiles (i.e., all of those mapped with the exception of urban/disturbed ruderal and agriculture) as shown in

Tables 4.11-4 and 4.11-5 that resident reptile species are reliant on for food, cover, and water. However, among the reptile species known or with a potential to occur in the survey area, due to their current status and relative abundance elsewhere in the subregion, the loss of these reptiles would be less than significant.

Birds

The loss of woodland communities and riparian forest/woodland communities as a result of construction of any of the Alternatives represents a loss of available nesting habitat for most of the common raptor species in the region. These habitat types are rapidly declining in southern California. In addition, the construction of the SOCTIIP Alternatives would result in the loss of grassland and scrub communities, which represents a loss of available foraging habitat for raptor species. Construction would also require the removal of several plant communities, such as CSS, riparian communities, woodland communities, and grassland. Virtually all plant communities may provide some habitat for one or more resident and migratory birds. However, by implementing the mitigation measures, all impacts can be reduced to below a level of significance.

Mammals

Several non-listed mammals have been identified within the study area. These species would be impacted during construction and the loss of habitat associated with construction of the SOCTIIP Alternatives. However, due to the abundance of the species within the study area and the implementation of the mitigation measures, impacts are considered less than significant.

Fisheries

The SOCTIIP Alternatives cross and/or parallel a number of drainages that provide habitat for a variety of fish, including several sensitive species. Drainages/water features crossed (or closely approached) by these Alternatives include, Cañada Gobernadora, San Juan Creek, Cristianitos Creek, San Mateo Creek, San Onofre Creek, and San Mateo Lagoon. Short-term impacts to species inhabiting these areas could arise during construction. However, through the implementation of the mitigation measures it is anticipated that impacts to sensitive fisheries would be less than significant.

Vegetation

Sensitive Plant Communities

Impacts to upland communities such as Venturan-Diegan transitional coastal sage scrub, sage scrub-grassland ecotones, sage scrub-chaparral ecotones, native grassland, floodplain sage scrub and other scrub are classified as sensitive vegetation communities because of their limited distribution. Impacts to these communities would be mitigated primarily through the acquisition and preservation of such communities. To partially mitigate these impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 hectares (1,182 acres) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 hectares (1,182 acres), 327 credits have been set-aside as a mitigation bank for future project impacts. These opportunities for preservation and restoration activities would also serve to partially mitigate impacts on sensitive plants for the SOCTIIP Alternatives. Regional open space planning efforts in the area, including the southern subregion of the NCCP, have not been finalized, so mitigation banking opportunities cannot currently be clearly defined at this time. However, a net loss of these rare communities that provide habitats for a unique assemblage of plants and wildlife would occur as a result of implementation of the project

Alternatives. Therefore, impacts to these upland communities would be considered significant and adverse even after mitigation.

Sensitive Plant Species

Direct impacts to Catalina mariposa lily, prostrate spineflower, beaked spikerush, hedge-leaved horkelia, California juniper, small-flowered microseris, and salt spring checkerbloom would be considered adverse, but less than significant because these species are still widespread in California, the species are still widespread in Orange County, or impacts would be to a relatively small number of plants.

Direct impacts to Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, and Palmer's grapplinghook would be considered significant and adverse because these species are not widespread in California, the species distribution in Orange County are not well documented, and the plants within the impact area represent a substantial portion of the known regional population, the subject populations are unique because they occur on the edge of a known species' range (e.g., populations in the impact area occur at the southernmost extent of the range where *Calochortus weedii* var. *intermedius* intergrades with *C. w.* var. *weedii*), a large number of plants would be impacted, many historical occurrences in Orange County have recently been extirpated (southern tarplant and Palmer's grapplinghook), and/or many additional historical occurrences have been extirpated throughout the region (southern tarplant and Palmer's grapplinghook). Although mitigation for impacts to these species is provided through seed collection, the translocation of plants to suitable protected restoration sites and the monitoring of such translocated populations, the successful performance of these translocated plants is not guaranteed and very little is currently known about the ability to successfully transplant such species. Success will be partly dependent on the adequate selection of a restoration site with similar microhabitat characteristics to the donor site. Therefore, impacts to the above plant species would be considered significant and adverse even after mitigation as shown in Table 7.11-1.

7.12.2.2 Long-Term Impacts

Wildlife

Amphibians

Indirect degradation of habitats through edge effects, and other indirect impacts (e.g., lighting, road kill, and disturbance), is likely to displace additional individuals/species and contribute to the overall local population decline. However, among the non-listed amphibian species known or with a potential to occur in the survey area, due to their current status and relative abundance elsewhere in the subregion, the loss of these amphibians would be less than significant. Habitat fragmentation and wildlife corridor impacts were generally considered significant after mitigation as shown in Table 7.11-1.

Reptiles

Indirect degradation of habitats through edge effects, and other indirect impacts (e.g., lighting, road kill, and disturbance), is likely to displace additional individuals/species and contribute to the overall local population decline. However, among the reptile species known or with a potential to occur in the survey area, due to their current status and relative abundance elsewhere in the subregion, the loss of these reptiles would not be significant. Habitat fragmentation and wildlife corridor impacts were generally considered significant after mitigation as shown in Table 7.11-1.

Birds

Long-term impacts to avian species would result from lighting and noise created by the SOCTIIP Alternatives. However, by implementing the proper mitigation measures, all impacts can be reduced to below a level of significance. Habitat fragmentation and wildlife corridor impacts were generally considered significant after mitigation as shown in Table 7.11-1.

Mammals

Long-term impacts to mammal species would result from fragmentation of habitat and disruption of wildlife corridors. Habitat fragmentation and wildlife corridor impacts were generally considered significant after mitigation as shown in Table 7.11-1.

Fisheries

Long-term impacts to any of the fish species which are known to occupy these drainages may occur as a result of impacts to water quality resulting from erosion and siltation; changes in water chemistry from roadway storm runoff and temporary construction; changes in stream flow or other hydrological dynamics resulting from grading/bridge or culvert construction; or from any similar or related impact to any other topological feature that is associated with the watershed or physical continuity of the affected drainages. However, because these creeks would be spanned with bridges and, assuming that other mitigation/minimization measures concerning erosion and water quality are adhered to, it is anticipated that impacts to sensitive fish species would be less than significant following mitigation.

Vegetation

Long-term impacts to vegetation could result from the introduction of invasive species. However, with the implementation of the mitigation measures, these impacts will be mitigated to below a level of significance.

7.12.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO WILDLIFE, FISHERIES AND VEGETATION REMAINING AFTER MITIGATION

Impacts to non-listed amphibians, non-listed reptiles, non-listed mammals, chaparral communities, annual grassland, ruderal grassland, agriculture, Catalina mariposa lily, prostrate spineflower, beaked spikerush, hedge-leaved horkelia, California Juniper, small-flowered microseris, and the salt spring checkerbloom will be less than significant. Impacts to non-listed avian species and fish species will be reduced to below a level of significance after mitigation.

To partially mitigate these impacts to Venturan-Diegan transitional coastal sage scrub, sage scrub-grassland ecotones, sage scrub-chaparral ecotones and native grassland, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 hectares (1,182 acres) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 hectares (1,182 acres), 327 credits have been set-aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, non-wetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone and native perennial

grassland habitats. These opportunities for preservation and restoration activities would also serve to partially mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

A net loss of these rare communities that provide habitats for a unique assemblage of plants and wildlife would occur as a result of implementation of all of the build Alternatives. Based on the biological diversity, scarcity, location and importance of the sensitive plant communities and the amount of community impacted, these impacts are substantial even after mitigation because the impacts for the build Alternatives would result in a net loss. Therefore, impacts to these upland communities under these Alternatives would be considered significant and adverse after mitigation under CEQA.

Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, and Palmer's grapplinghook would be considered significant and adverse even after mitigation. The impacts of the Preferred Alternative are substantially reduced, but h~~H~~abitat fragmentation/wildlife corridor impacts are still significant after mitigation.

7.13 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO THREATENED AND ENDANGERED SPECIES

7.13.1 THRESHOLDS OF SIGNIFICANCE RELATED TO THREATENED AND ENDANGERED SPECIES

In accordance with the requirements of CEQA, impacts to threatened and endangered species will individually or cumulatively be considered significant if they:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Game (CDFG) or the United States Fish and Wildlife Service (USFWS).
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) or other approved local, regional or state habitat conservation plan.

7.13.2 ADVERSE IMPACTS RELATED TO THREATENED AND ENDANGERED SPECIES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.13.2.1 Short-Term Impacts during Construction

Short-term impacts are identified, for the following threatened and endangered species, as the direct loss of individuals and potential habitat. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential short-term impacts of the Preferred Alternative on threatened and endangered species would be similar to the impacts of the A7C-FEC-M-Initial Alternative because the Preferred Alternative is limited to six lanes.

Thread-Leaved Brodiaea

Direct impacts to thread-leaved brodiaea, would be considered significant and adverse because (1) the species is not widespread in California, (2) the species distribution in Orange County is not well documented, and the plants within the impact area represent a substantial portion of the regional population, and (3) a large number of plants would be impacted. Although mitigation for impacts to this species is provided through seed collection, the translocation of plants to suitable protected restoration sites and the monitoring of such translocated populations, the successful performance of these

translocated plants is not guaranteed and very little is currently known about the ability to successfully transplant such species. Success will no doubt in part be dependent on the adequate selection of a restoration site with similar microhabitat characteristics to the donor site. Therefore, impacts to the thread-leaved brodiaea would be considered significant and adverse even after mitigation as shown in Table 7.11-1.

San Diego Fairy Shrimp

The San Diego fairy shrimp will not be directly impacted by implementation of any of the SOCTIIP Alternatives. None of the vernal pools that support fairy shrimp would be directly affected by any of the alternatives. Site design issues have been implemented to avoid any indirect impacts to this species. Therefore, there will be no significant impacts to the San Diego fairy shrimp.

Riverside Fairy Shrimp

The Riverside fairy shrimp will not be directly impacted by implementation of any of the SOCTIIP Alternatives. None of the vernal pools that support fairy shrimp would be directly affected by any of the alternatives. Site design issues have been implemented to avoid any indirect impacts to this species. Therefore, there will be no significant impacts to the Riverside fairy shrimp.

Tidewater Goby

Due to the complexity and dynamic nature of their aquatic ecosystems and its susceptibility to perturbation by a number of direct effects, any direct impacts to drainages that would result in changes to water quality/chemistry, flow patterns/velocity/water temperature, turbidity, etc. occupied by the tidewater goby (San Mateo and San Onofre Creeks and San Mateo Lagoon) by the FEC and A7C (including the Preferred) corridors would represent a significant adverse impact to this species. However, because these creeks would be spanned with bridges and, assuming that other mitigation/minimization measures concerning erosion and water quality are adhered to, it is anticipated that impacts to the tidewater goby would be less than significant following mitigation as shown in Table 7.11-1.

Southern Steelhead Trout

Due to the complexity and dynamic nature of their aquatic ecosystems and its susceptibility to perturbation by a number of direct effects, any direct impacts to drainages that would result in changes to water quality/chemistry, flow patterns/velocity/water temperature, turbidity, etc. occupied by the southern steelhead trout (San Mateo and San Onofre Creeks and San Mateo Lagoon) by the FEC and A7C (including the Preferred) corridors would represent a significant adverse impact to this species. However, because these creeks would be spanned with bridges and, assuming that other mitigation/minimization measures concerning erosion and water quality are adhered to, it is anticipated that impacts to the southern steelhead trout would be less than significant following mitigation as shown in Table 7.11-1.

Arroyo Toad

Direct impacts to occupied drainages (San Juan, San Mateo, San Onofre, and Cristianitos creeks) that are known or likely to support arroyo toad would represent a significant adverse impact to the species. In addition, impacts to upland habitats adjacent or proximal to known locations of arroyo toad could also represent an unquantifiable significant adverse direct impact, as individuals of the species may be present under the soil surface in nearby upland areas. Furthermore, impacts to upland areas that do not provide burrowing habitat may still represent a significant adverse impact if these displace a substantial amount of

habitat that may otherwise be used for foraging and/or upland dispersal movements as shown in Table 7.11-1.

Considering the difficulty in ascertaining the true distribution of the species and where an individual may occur relative to the project footprint, any SOCTIIP build Alternative that crosses, or closely approaches an occupied drainage is assumed to result in significant adverse impacts to the arroyo toad. However, for most of these alternatives, the creek crossings would be constructed in a relatively perpendicular manner, and by implementing the mitigation measures provided, this impact would be reduced to a level below significant. However, the FEC and A7C (including the Preferred) corridors would be aligned closely to, and run parallel with, Cristianitos and San Mateo creeks. It is anticipated that for these Alternatives, the ~~long~~short-term direct impacts associated with the alignments would have significant and adverse effects on the species even after mitigation.

California Gnatcatcher

The direct loss of individuals and large impacts to occupied coastal sage scrub resulting from the build Alternatives would displace a large area of potential nesting and foraging habitat and represent a significant adverse impact to the California gnatcatcher even after mitigation as shown in Table 7.11-1.

Least Bell's Vireo

A no-net loss policy for mitigating wetlands will provide compensation for the loss of habitat that supports the least Bell's vireo. This would effectively mitigate all impacts to the least Bell's Vireo. Other species specific mitigation measures are incorporated to provide protection during construction. Thus, no significant short-term impacts would occur.

Peregrine Falcon

The peregrine falcon was observed in the disturbance limits of the CC and CC-ALPV Alternatives. Construction impacts to the peregrine falcon would result from noise, lighting, and other edge effects, including disruption of the prey base. However, because this species is highly mobile and is not known to nest in the area, the project would not result in mortality or substantial displacement. Therefore, impacts would be less than significant.

Pacific Pocket Mouse (PPM)

The Pacific pocket mouse, is extremely restricted in its current distribution and is perhaps the rarest species that is addressed in the survey area. All project Alternatives have been designed to avoid any impacts to the PPM. Therefore, there are no significant short-term impacts to PPM.

7.13.2.2 Long-Term Impacts

Long-term impacts are identified for the following threatened and endangered species as the effects resulting from noise, night lighting, introduction of invasive species, erosion and water quality, and edge effects. As previously stated, the Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential long-term impacts of the Preferred Alternative on threatened and endangered species would be similar to the impacts of the A7C-FEC-M-Initial Alternative because the Preferred Alternative will be limited to a maximum of six lanes.

Thread-Leaved Brodiaea

Long-term impacts to thread leaved brodiaea could result from the introduction of invasive species. However, with the implementation of the mitigation measures, these impacts will be mitigated to below a level of significance.

San Diego Fairy Shrimp

Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the San Diego fairy shrimp.

Riverside Fairy Shrimp

Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the Riverside fairy shrimp.

Tidewater Goby

Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the tidewater goby.

Southern Steelhead Trout

Indirect impacts associated with erosion or water quality will be mitigated through erosion control measures during construction and runoff control measures (BMPs) of storm water. Therefore, there will be no significant impacts to the southern steelhead trout.

California Gnatcatcher

Long-term impacts to California gnatcatcher would result from lighting and noise created by the SOCTIIP Alternatives. However, by implementing the mitigation measures, all impacts can be reduced to below a level of significance

Arroyo Toad

Indirect impacts to occupied drainages (San Juan, San Mateo, San Onofre, and Cristianitos creeks) that are known or likely to support arroyo toad would represent a significant adverse impact to the species. It is anticipated that for these Alternatives, the long-term direct impacts associated with the alignments would have significant and adverse effects on the species even after mitigation.

Least Bell's Vireo

Long-term impacts to least Bell's vireo would result from lighting and noise created by the FEC-M, FEC-W, CC, CC-ALPV, A7C-FEC-M, Preferred, and I-5 Alternatives. However, by implementing the mitigation measures, all impacts can be reduced to below a level of significance.

Peregrine Falcon

Long-term impacts to the peregrine falcon would be limited to disruption of prey species. However, because the peregrine falcon is not tied to any particular prey species, and can utilize a variety of habitats, long-term impacts would be less than significant.

Pacific Pocket Mouse

The Pacific pocket mouse, is extremely restricted in its current distribution and is perhaps the rarest species that is addressed in the survey area. All project Alternatives have been designed to avoid any impacts to the PPM. Therefore, there are no significant long-term impacts to PPM.

7.13.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO THREATENED AND ENDANGERED SPECIES REMAINING AFTER MITIGATION

Short- and long-term impacts to the San Diego fairy shrimp, Riverside fairy shrimp, tidewater goby, southern steelhead trout, least Bell's vireo and pacific pocket mouse will be reduced to below a level of significance through the mitigation measures. Impacts to the thread leaved brodiaea, Arroyo toad and California gnatcatcher would be considered significant and adverse even after mitigation.

7.13.4 SIGNIFICANT ADVERSE CUMULATIVE IMPACTS RELATED TO BIOLOGICAL RESOURCES

Section 7.13.4 Significant Adverse Cumulative Impacts Related to Biological Resources.

There will be continued adverse impacts on biological resources as a result of existing and planned development. Potential direct impacts associated with habitat loss and fragmentation will continue and indirect impacts associated with human intrusion, invasive species, noise impacts on wildlife and other indirect impacts. There are extensive mitigation measures identified for the cumulative projects and the SOCTIIP build Alternatives to avoid and minimize impacts on plant communities, wildlife, sensitive species and critical habitat designations. The Preferred Alternative is designed to be consistent with the Ranch Plan Settlement Agreement, including additional areas set aside for open space and connectivity. However, cumulative biological effects of the cumulative projects and the SOCTIIP result in significant adverse impacts as a result of the SOCTIIP build Alternatives, the background MPAH and land use assumptions in the No Action Alternatives, and other cumulative projects. The significance of the cumulative impacts to biological resources associated with the Preferred Alternative have been minimized overall to below a level of significance by limiting the maximum size of the project to six general purpose lanes, and as a result of the Settlement Agreement between RMV, the County of Orange, and the environmental organizations. The Settlement Agreement consolidates development on the Ranch and substantially increases the area to remain dedicated to open space uses.

7.14 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO WILD AND SCENIC RIVERS

7.14.1 THRESHOLDS OF SIGNIFICANCE RELATED TO WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) requires that certain selected rivers of the Nation, with their immediate environments which possess remarkable scenic, recreational, geological, fish and wildlife, historic, cultural or other similar values, be preserved in free flowing condition and that they and their immediate environments be protected.

7.14.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO WILD AND SCENIC RIVERS

The SOCTIIP study area does not contain wild, scenic or recreational rivers as addressed in the Wild and Scenic Rivers Act or listed in the National Inventory of Wild and Scenic Rivers. Therefore, the construction and operation of any of the SOCTIIP build Alternatives will not result in adverse impacts on wild and scenic rivers. Similarly, the No Action Alternatives will not result in adverse impacts on wild and scenic rivers.

7.15 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO COASTAL BARRIERS

7.15.1 THRESHOLDS OF SIGNIFICANCE RELATED TO COASTAL BARRIERS

The Coastal Barrier Resource Act (CBRA) was enacted by Congress on October 18, 1982 (U.S.C. Section 3501 et. seq.). The Act was passed in an effort "...to minimize the loss of human life, wasteful expenditure of Federal revenues, and the damage to fish, wildlife and other natural resources associated with coastal barriers along the Atlantic and Gulf coasts." (U.S.C. Section 3501(b)). The Coastal Barrier Improvement Act of 1990 (CBIA, P.L. 101-591; 104 Stat. 2931) added new areas along the Great Lakes, Puerto Rico, the Florida Keys, the Virgin Islands, and secondary barriers within large embayments to the System protected by the CBRA.

7.15.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO COASTAL BARRIERS

The SOCTIIP study area does not contain coastal barriers as addressed in the CBRA or CBIA. Therefore, the construction and operation of any of the SOCTIIP build Alternatives will not result in adverse impacts on coastal barriers. Similarly, the No Action Alternatives will not result in adverse impacts on coastal barriers.

7.16 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO THE COASTAL ZONE

7.16.1 THRESHOLDS OF SIGNIFICANCE RELATED TO THE COASTAL ZONE

If the Alternatives violate the stated goals of the California Coastal Commission (CCC), impacts to the coastal zone would be considered significant and adverse. The goals of the CCC were provided earlier in Section 4.15 (Affected Environment, Impacts and Mitigation Measures Related to the Coastal Zone).

7.16.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO THE COASTAL ZONE

The FEC-W, FEC-M, CC, A7C-FEC-M, ~~Alternatives,~~Preferred and the I-5 Alternatives encroach on the coastal zone and may require a Coastal Development Permit (CDP) (California) and a consistency finding with the CCMP (Federal).

The AIO Alternative and the No Action Alternatives are not in the Coastal Zone and, therefore, have no impacts related to the Coastal Zone.

~~Once a build Alternative is selected, a CDP application will be submitted to the CCC.~~ As previously stated, the A7C-FEC-M-Initial Alternative, with minor design modifications, was selected as the

Preferred Alternative. The A7C-FEC-M-Initial Alternative with the design modifications incorporated is known as the Preferred Alternative. A CDP application for construction of the Preferred Alternative, including utility relocations, will be submitted to the CCC, and all requirements of the Federal Coastal Zone Management Act will be met. The CDP will address Coastal Zone concerns including biological, cultural and paleontological resources and visual impacts based on impacts and mitigation identified in this EIS/SEIR for the selected Alternative. The CDP will also address concerns regarding the relocation of utility infrastructure within the coastal zone. Refer to Sections 7.11, 7.12, 7.13, 7.17, 7.19 and 7.24 for adverse impacts and levels of significance before and after mitigation for biological, cultural and Paleontological resources and visual resources.

7.16.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO THE COASTAL ZONE

Refer to Sections 7.11, 7.12, 7.13, 7.17, 7.19 and 7.24 for the Alternatives that have significant adverse impacts under CEQA to biological, paleontological, archaeological and visual resources after mitigation.

7.17 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

7.17.1 THRESHOLDS OF SIGNIFICANCE RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES

A SOCTIIP Alternative would result in significant adverse impacts related to archaeological and historic resources if it would:

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of CEQA.
- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of CEQA.
- Disturb any human remains, including those interred outside of formal cemeteries.

7.17.2 ADVERSE IMPACTS RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.17.2.1 Short-Term Impacts during Construction

Impacts on archaeological and historic resources during construction are related to the damage or destruction of these resources that could occur during demolition, earthmoving and other construction activities. These impacts to archaeological and historic resources would be adverse.

7.17.2.2 Long-Term Impacts

The long-term impacts related to archeological and historic resources are generally indirect in nature. Long-term potential impacts associated with increased noise levels, reduction in air quality and increases in traffic volume in the vicinity of historic resources could potentially affect the public access and enjoyment of these resources. In the case of archeological resources, public access could potentially be made available to previously inaccessible resources, thereby increasing human presence in those areas. Increased human presence creates opportunities for increased disturbance of archeological resources including the potential for scavenging and/or damage by amateur collectors and construction personnel.

7.17.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO HISTORIC AND ARCHAEOLOGICAL RESOURCES REMAINING AFTER MITIGATION

As described previously in Section 4.16, a phased approach was initially used for identification and evaluation of archaeological and historic resources because of the number of build Alternatives that ~~are~~ were proposed ~~from which a particular Alternative may be selected for implementation~~and evaluated in the Draft EIS/SEIR. This phased approach avoids unnecessary research and analysis of resources along alignments that ~~are~~ were not ultimately chosen for implementation. The first phase (Phase I) consisted of background research and field survey of all accessible land in the study area for each proposed Alternative, so that the various Alternatives ~~can~~ could be ranked based on the level of resources that could be potentially impacted. Subsequently, access was granted for surveys in new areas, and new research conducted for the RMV became available. Development of a comprehensive Archaeological Survey Report was then initiated. The Phased Approach allows for the consideration of new information that becomes available, such as when access to areas is gained where right-of-entry had previously been unavailable. During 2004 and 2005, LSA Associates, Inc. (LSA) surveyed The Conservancy and areas of MCB Camp Pendleton outside of the San Mateo Archaeological District as access to those areas were granted. The information from these surveys is included in Section 4.16.

The new information from these sources was considered in the evaluation of the three refined Alternatives (FEC-M, FEC-W, and A7C-FEC-M). Through further engineering refinements, the FEC-W and the A7C-FEC-M then emerged as the two remaining least environmentally damaging alternatives. As stated in Section 2.2, the A7C-FEC-M Alternative alignment evaluated in the Draft EIS/SEIR was refined in order to minimize environmental impacts and address engineering requirements. The A7C-FEC-M-Initial Alternative, with the design modifications, was selected as the Preferred Alternative. The design modifications incorporated into the Alternative do not substantially alter the alignment or project impacts. For example, the disturbance limits for the Preferred Alternative are approximately 23 acres smaller than those for the A7C-FEC-M-Initial Alternative. The disturbance limits for the A7C-FEC-M-Initial are approximately 37 acres smaller than the disturbance limits of the A7C-FEC-M-Ultimate Alternative.

Refinement of the A7C-FEC-M-Initial into the Preferred Alternative occurred, at least in part, due to significant impacts to a National Register eligible site complex located along the FEC-W (CA-ORA-654, CA-ORA-656, CA-ORA-1111 and CA-ORA-1103). The Preferred Alternative avoids impacts to these resources. As a result of the updated information and analysis, OHP recommended that the SOCTIIP process move from a Phased Identification process to a project-level analysis of the Preferred Alternative. Therefore, the Phased Identification process as described in the Draft EIS/SEIR is no longer applicable.

The consideration of new information and the transition from a phased to project level approach is the result of accepted practice under the provisions of 36 CFR800.4 (b) (2). The new information has allowed for the refinement of the Preferred Alternative to avoid and minimize impacts to known archeological resources.

The information incorporated in Section 4.16 as a result of surveys conducted in 2004 and 2005 reflects the expected and required evolution of the Phased Identification and Analysis Approach to a project-level analysis for the Preferred Alternative. Additional archaeological resources were identified as a result of the additional surveys that were completed and information that was made available; this is an anticipated outcome of the Phased Approach. The information does not change the conclusions of the Draft EIS/SEIR; no new significant impacts were found to occur, no substantial increase in the severity of an environmental impact would result and no new mitigation was required.

~~Phase II would include the evaluation of the NRHP eligibility of all identified cultural resources in the area of potential effect that would be developed for the selected Alternative. Phase II would be conducted~~

~~in consultation with FHWA, Caltrans, SHPO and as appropriate, MCB Camp Pendleton. Studies in Phase II would include evaluations, detailed architectural inventory and other appropriate reports as warranted.~~

~~Because Phase II has yet to be conducted following selection of a preferred Alternative, e~~Each archaeological and historic resource identified in Phase I, is considered to be potentially significantly impacted by implementation of the associated build Alternative(s). It is not know at this time if these impacts can be mitigated to below a level of significance. Therefore, as shown on Table 7.17-1 and 7.17-2 for archaeological resources and table 7.17-3 for historic resources, the following SOCTIIP Alternatives are assumed to result in potentially significant adverse impacts related to archaeological and historic resources:

FEC-W Alternative.
FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-ALPV/Preferred Alternative.
A7C-FEC-M Alternative.
AlO Alternative (Potential significant adverse impacts related to archaeological resources only. No potentially significant adverse impacts related to historic resources.)
I-5 Alternative.

The Preferred Alternative does not result in any potential adverse impacts to historic resources.

7.18 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTES

7.18.1 THRESHOLDS OF SIGNIFICANCE RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTES

An Alternative would result in a significant impact related to hazardous materials if it:

- Creates a significant hazard to the public or the environment through the routine use, transport or disposal of hazardous materials.
- Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emits hazardous emissions or handles hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.
- Is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and which would create a significant hazard to the public or the environment.

7.18.2 ADVERSE IMPACTS RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.18.2.1 Short-Term Impacts during Construction

The SOCTIIP build Alternatives could potentially result in adverse impacts during construction related to military sites, past pesticide and herbicide use on agricultural land, USTs, LUST sites, auto services, dry

cleaners, existing utilities, wastewater treatment plants, electrical substations, petroleum pipelines, asbestos in existing structures, aerially deposited lead, undocumented abandon oil wells or test borings, release of hazardous materials due to construction activities and Prima Deshecha Landfill. All of the SOCTIIP build Alternatives will result in short-term impacts related to hazardous wastes and hazardous materials. Table 7.18-1 summarizes the potential short-term, construction adverse impacts of the SOCTIIP build Alternatives related to hazards and hazardous materials. As previously stated, the Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative related to hazards and hazardous materials would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

Because the study area is highly variable regarding documentation of hazards and hazardous materials, and previous uses, the presence of hazards and hazardous materials cannot be positively established without additional Alternative-specific research and testing. Therefore, in the absence of this information, short-term construction related impacts of the SOCTIIP build Alternatives related to hazards and hazardous materials could be significant under CEQA because they have the potential to result in a hazard to the public, construction workers and/or the environment. These impacts would be mitigated to below a level of significance based on the mitigation measures provided in Section 4.17 (Affected Environment, Impacts and Mitigation Measures Related to Hazardous Materials and Wastes) and on compliance with existing federal, state and local regulations regarding hazardous materials and wastes.

The No Action Alternatives will not result in the construction of any SOCTIIP related transportation improvements in the SOCTIIP study area. Therefore, the No Action Alternatives will not result in construction related hazardous materials impacts.

7.18.2.2 Long-Term Impacts

The SOCTIIP corridor Alternatives could potentially result in an increased risk associated with accidental release of hazardous materials and wastes in areas not currently subject to this risk.

All the SOCTIIP build Alternatives are expected to result in the use of these transportation facilities for the transport of hazardous materials and wastes.

The operations related hazardous materials and wastes impacts of the SOCTIIP build Alternatives could be significant under CEQA because they have the potential to result in an accidental release of hazardous materials or wastes on the transportation facilities and causing a hazard to the public and/or the environment. This potential for accidental release already exists on the transportation system as a result of the existing transport of hazardous materials and wastes in the study area. Under the SOCTIIP build Alternatives, some of these trips would be moved to alternative travel corridors. These potential impacts would be mitigated to below a level of significance based on compliance with existing federal, state and local regulations related to the transport of hazardous materials and wastes.

The No Action Alternatives will not result in SOCTIIP improvements to the Master Plan of Arterial Highways (MPAH) and I-5 components of the transportation system. The arterial roads and I-5 in the SOCTIIP study area under the No Action Alternatives are expected to continue to be used for the transport of hazardous wastes and materials, similar to existing conditions.

7.18.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTES

The potentially significant short-term adverse construction impacts of the SOCTIIP build Alternatives would be substantially mitigated, to below a level of significance, based on implementation of the mitigation measures described in Table 7.18-1.

The potentially significant long-term adverse impacts of the SOCTIIP build Alternatives related to accidental releases of hazardous materials or wastes would be substantially mitigated, to below a level of significance, based on implementation of existing federal, state and local regulations regarding response and remediation for hazardous materials or wastes spills.

7.19 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO VISUAL RESOURCES

7.19.1 THRESHOLDS OF SIGNIFICANCE RELATED TO VISUAL RESOURCES

7.19.1.1 Threshold for Visual Resources

A SOCTIIP Alternative would result in a significant impact under CEQA related to visual resources if it has an adverse impact on visual quality, view quality or community character.

As defined in Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources), project impacts related to visual quality were based on numeric calculations to assist in determining the magnitude of the visual change between the existing conditions and the conditions under the project Alternatives. A decrease in visual quality under the project Alternatives of one or more numeric point from the existing condition rating is considered a substantial adverse impact. This one or more point decrease in visual quality represents a modification such that the typical viewer would be aware of the change and would consider the change to be substantially adverse. Visual impacts defined as substantially adverse in Section 4.18 are considered significant and adverse under CEQA.

Sensitive viewers were defined in Section 4.18 and they include residential viewers, users of wilderness parks, State parks, The Donna O'Neill Land Conservancy and motorists on designated scenic roads. Significant impacts under CEQA related to visual quality, view quality or community character are defined below:

Visual Quality. The project would have a significant visual quality impact if:

- The proposed project would highly and negatively contrast with the existing visual character as indicated by a decrease of one or more numeric points from the existing visual quality numeric rating and this change is visible to viewers with high sensitivity; or
- The project would remove dominant natural features such as rock outcrops, mature vegetation or cultural features, or at least 25 percent of the visual elements of the visual Assessment Unit (AU) that contribute to the uniqueness and character of the visual setting in the sub-region.

View Quality. The project would have a significant impact on view quality if:

- A regionally outstanding view has been identified from this viewing location and the project will highly and negatively contrast with the high quality view scene and this contrast would be visible to viewers with high sensitivity; or
- Project elements will result in a major view blockage and this contrast would be visible to viewers with high sensitivity.

Community Character. The project will have a significant impact on community character if:

- The project will remove existing community elements and landmarks that have been identified by the community as important; or

- The project would prevent the attainment of or conflict with adopted community aesthetic and character goals and policies contained in relevant General Plans and Community Plans.

7.19.1.2 Threshold for Light and Glare

- An Alternative would result in a significant impact related to light and glare if it would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

7.19.2 ADVERSE IMPACTS RELATED TO VISUAL RESOURCES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

Table 7.19-1 summarizes the adverse impacts of the SOCTIIP Alternatives related to visual resources. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative related to visual resources would be similar to the impacts of the A7C-FEC-M-Initial Alternative because the Preferred Alternative is limited to a maximum of six general purpose lanes. Table 7.19-1 identifies the short-and long-term impacts anticipated under each Alternative, the mitigation measures proposed to reduce or avoid those adverse impacts and the CEQA level of significance of those impacts after mitigation. Visual impacts identified as substantially adverse in Section 4.18 are significant under CEQA and visual impacts identified as adverse but less than substantial are less than significant under CEQA. As described previously in Section 4.18, a change in visual quality under the project Alternatives of one or more numeric point from the existing condition rating is considered a substantial impact.

7.19.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO VISUAL RESOURCES REMAINING AFTER MITIGATION

As shown in Table 7.19-1, the following Alternatives would result in significant unavoidable adverse impacts related to visual resources:

FEC-M Alternative.
FEC-W Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-FEC-M/Preferred Alternative.
A7C-ALPV Alternative.
AIO Alternative.
I-5 Alternative.

7.20 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO ENERGY

7.20.1 THRESHOLDS OF SIGNIFICANCE RELATED TO ENERGY

A SOCTIIP Alternative would result in a significant impact related to energy under CEQA if it:

- Requires large amounts of energy during construction or operation.
- Affects the local and regional energy supply or requirements for additional capacity.
- Affects peak or base energy demands.
- Does not comply with existing energy standards.

- Makes inefficient use of transportation energy in comparison to other transportation alternatives.

7.20.2 ADVERSE IMPACTS RELATED TO ENERGY AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.20.2.1 Short-Term Impacts during Construction

The use of energy for the construction of the SOCTIIP build Alternatives would be a short-term adverse impact on energy resources. However, it would represent only a minor percent of the total energy consumed in the region during the construction period and, therefore, is not anticipated to result in adverse impacts on the overall supply of and demand for energy during the construction of the SOCTIIP build Alternatives.

7.20.2.2 Long-Term Impacts

The FEC-W, FEC-M, CC and I-5 Alternatives would not result in a significant change in energy consumed on an annual basis compared to the No Action-RMV Plan.

The AIO Alternative would have a beneficial effect on energy consumed on an annual basis compared to the No Action-RMV Plan.

The A7C-FEC-M/Preferred and I-5 Alternatives would not result in a significant change in energy consumed on an annual basis compared to the No Action-OCP-2000 Plan.

The FEC-W, FEC-M, CC and AIO Alternatives would have a beneficial effect on energy consumed on an annual basis compared to the No Action-OCP-2000 Plan.

7.20.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO ENERGY REMAINING AFTER MITIGATION

No mitigation measures related to energy are proposed because the change in energy consumption under the build Alternatives compared to the No Action Alternatives is substantially less than one percent on an annual basis and, therefore, construction and operation for the SOCTIIP build Alternatives would not result in adverse impacts on energy consumption.

7.21 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO EARTH RESOURCES

7.21.1 THRESHOLDS OF SIGNIFICANCE RELATED TO EARTH RESOURCES

A SOCTIIP Alternative would result in a significant adverse impact related to geotechnical, geology and soils if it:

- Exposes people or structures to the risk of loss, injury or death involving:

  Surface rupture of a known earthquake fault, as delineated on the most recent Earthquake Fault Zones map issued by the State Geologist for the area, or confirmed evidence of newly identified earthquake fault. Refer to the California Division of Mines and Geology (CDMG) Special Publication 42.

  Seismic shaking hazards that exceed those inherent to similar contemporary facilities.

  Seismic-related ground failure, including liquefaction.

Landslides.

Seismically induced flooding.

- Directly or indirectly destroys a unique geologic feature.
- Results in loss of mineral resources that are of value to the region or the residents of the State of California, or which are locally important for recovery.
- Results in permanent adverse effects to groundwater resources.
- Results in adverse effects related to the disposal of excavated material, sewage or wastewater.
- Exposes people or structures to an increased hazard of landslide or mudslide.
- Exposes structures to potential damage from expansive or collapsible soil.
- Results in an increase in the potential for soil erosion.
- Exposes structures to a potential for distress due to foundation settlement or subsidence.

7.21.2 ADVERSE IMPACTS RELATED TO EARTH RESOURCES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

None of the SOCTIIP Alternatives presents significant adverse impacts relative to earthquake damage, destruction of a unique geologic feature, exposure of people or structures to an increased hazard of landslide or mudslide, exposure of structures to potential damage from expansive or collapsible soil, increased soil erosion above natural conditions or exposure of structures to a potential for distress due to foundation settlement or subsidence, as summarized in Table 7.21-1. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative related to earth resources would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.21.2.1 Short-Term Impacts during Construction

As shown in Table 7.21-1, all of the SOCTIIP build Alternatives will result in temporary lowering of groundwater levels. All of the SOCTIIP build Alternatives will result in increased disposal of excavated material. These impacts are considered to be less than significant.

7.21.2.2 Long-Term Impacts

As shown in Table 7.21-21, the SOCTIIP corridor Alternatives that cross San Juan Creek will pose limitations on future mining of sand and gravel deposits in San Juan Creek. However, because of the low likelihood that future mining would be permitted in San Juan Creek, these impacts are considered less than significant.

The A7C-ALPV Alternative results in permanent impacts to a mapped groundwater spring located 0.75 km (0.5 mi) south of Ortega Highway and the relocation of a well in the SOCTIIP study area. These impacts are considered significant and adverse.

7.21.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO EARTH RESOURCES

As shown in Table 7.21-1, the following Alternatives will have significant adverse impacts after mitigation related to permanent impacts to a mapped groundwater spring located 0.75 km (0.5 mi) south of Ortega Highway and the relocation of a well in the SOCTIIP study area.

A7C-ALPV Alternative.

7.22 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO MILITARY USES

7.22.1 THRESHOLDS OF SIGNIFICANCE RELATED TO MILITARY USES

An Alternative would be considered to result in an adverse impact related to military uses if it:

- Physically encroaches onto Camp Pendleton.
- Results in impacts which reduce the ability of Camp Pendleton to meet its Military Training Mission.

7.22.2 ADVERSE IMPACTS RELATED TO MILITARY USES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

Table 7.22-1 summarizes the potential adverse impacts of the SOCTIIP Alternatives related to the Military Mission at MCB Camp Pendleton. Mitigation is identified for those potentially significant adverse impacts. Table 7.22-1 also identifies the level of significance of each impact under CEQA before and after implementation of the identified mitigation measures. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative related to military uses would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.22.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO MILITARY USES REMAINING AFTER MITIGATION

As shown in Table 7.22-1, the following SOCTIIP Alternatives would result in significant unavoidable adverse impacts related to the Military Mission ~~as~~ at Camp Pendleton:

FEC-W Alternative.
FEC-M Alternative.
A7C-FEC-M/Preferred Alternative.

7.23 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO MINERAL RESOURCES

7.23.1 THRESHOLDS OF SIGNIFICANCE RELATED TO MINERAL RESOURCES

A SOCTIIP Alternative was considered to result in a significant adverse impact related to mineral resources if it results in loss of mineral resources that are of value to the region or the residents of the State of California or which are locally important for recovery.

7.23.2 ADVERSE IMPACTS RELATED TO MINERAL RESOURCES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.23.2.1 Short-Term Impacts during Construction

There are no short-term impacts during construction of any SOCTIIP Alternatives related to mineral resources.

7.23.2.2 Long-Term Impacts

The SOCTIIP corridor Alternatives (FEC-W, FEC-M, CC, CC-ALPV, A7C-ALPV and A7C-FEC-M/ Preferred Alternatives) all cross San Juan Creek, and may pose slight limitations on future mining of sand and gravel deposits in the project vicinity. Considering that the affected areas are small relative to the area of the Creek and the low likelihood that future mining could be permitted in San Juan Creek, this is not considered a significant adverse impact.

7.23.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO MINERAL RESOURCES REMAINING AFTER MITIGATION

The potentially significant long-term adverse impacts of the SOCTIIP build Alternatives would be substantially mitigated, to below a level of significance, based on implementation of the mitigation measures described in Section 4.22.

7.24 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO PALEONTOLOGICAL RESOURCES

7.24.1 THRESHOLDS OF SIGNIFICANCE RELATED TO PALEONTOLOGICAL RESOURCES

A SOCTIIP Alternative would result in a significant impact related to paleontological resources under CEQA if it:

- Directly or indirectly results in the destruction of a significant paleontological resource.

Impacts of the SOCTIIP Alternatives will also be considered significant if the paleontological resources impacted themselves are considered significant, as defined earlier in Section 4.23 (Affected Environment, Impacts and Mitigation Measures Related to Paleontological Resources).

7.24.2 ADVERSE IMPACTS RELATED TO PALEONTOLOGICAL RESOURCES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

7.24.2.1 Short-Term Impacts during Construction

Short-term impacts to paleontological resources would be due directly to construction of the SOCTIIP build Alternatives. Short-term adverse effects are primarily the destruction of paleontologic resources and the loss of information associated with paleontologic resources. There are no short-term beneficial effects unless mitigation is implemented. With mitigation, the short-term beneficial effect is the potential salvage of paleontological resources. The short-term effects of the SOCTIIP build Alternatives on paleontological resources are summarized in Table 7.24-1. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential short-term impacts of the Preferred Alternative related to paleontological resources would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

7.24.2.2 Long-Term Impacts

Long-term impacts to paleontological resources are post-construction and are primarily the result of increased human presence. There are no beneficial long-term effects unless mitigation is implemented. With mitigation, the long-term beneficial effect is the potential for increased knowledge available to scientists, educators and the general public. Long-term effects of the SOCTIIP build Alternatives on paleontological resources are summarized in Table 7.24-1. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential long-term impacts of the Preferred Alternative related to paleontological resources would be similar to the impacts of the A7C-FEC-M-Initial Alternative.

The No Action Alternatives will not result in adverse impacts to paleontological resources, either in the short-term or long-term because the No Action Alternatives will not result in the construction of the SOCTIIP build Alternatives. However, the beneficial impact of the potential for increased knowledge made available to scientists, educators and the general public by salvage of paleontological resources during construction of the SOCTIIP Alternatives would not occur under the No Action Alternatives. Important beneficial impacts to paleontological resources do exist for the No Action Alternatives in the preservation, in its original place, of paleontological resources for future generations who might have the benefit of new technological advances in construction, fossil excavation and scientific analyses.

7.24.3 SIGNIFICANT ADVERSE IMPACTS RELATED TO PALEONTOLOGICAL RESOURCES REMAINING AFTER MITIGATION

As shown in Table 7.24-1, none of the SOCTIIP Alternatives would result in significant unavoidable adverse impacts related to paleontological resources after mitigation.

7.25 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO PUBLIC SERVICES AND UTILITIES

7.25.1 THRESHOLDS OF SIGNIFICANCE RELATED TO PUBLIC SERVICES AND UTILITIES

A SOCTIIP Alternative would result in a significant adverse impact under CEQA related to public services and utilities if it:

- Results in adverse impacts associated with alterations to existing facilities or services; and/or the need for new facilities or services when those alterations or new facilities or services could cause significant environmental impacts, related to the following public services:

  Fire protection.

  Police protection.

  Emergency response and medical service.

  Solid waste disposal services and facilities.

  Schools.

  Other public services facilities.

  Electrical facilities and services.

  Natural gas facilities and services.

Fuel transport and supply facilities and services.

Domestic and recycled water facilities and services.

Sanitary sewer facilities and services.

Communications facilities and services.

A SOCTIIP Alternative would result in a significant adverse impact related to utilities if it:

- Exceeds the wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Requires or results in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Requires or results in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Results in the need for new or expanded entitlements because insufficient water supplies are available under existing entitlements and resources.
- Results in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments.

7.25.2 ADVERSE IMPACTS RELATED TO PUBLIC SERVICES AND UTILITIES AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION

Table 7.25-1 identifies the potential short-and long-term adverse impacts on utilities and services anticipated under each alternative, the mitigation measures proposed to reduce or avoid those adverse impacts and the CEQA level of significance of each impact after mitigation. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative related to public services and utilities would be similar to the impacts of the A7C-FEC-M-Initial Alternative. See Sections 2.2 and 4.24 for more information regarding the refinements to the Utility Plan for the Preferred Alternative.

7.25.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO PUBLIC SERVICES AND UTILITIES

As shown in Table 7.25-1, the following SOCTIIP Alternatives would result in significant unavoidable adverse impacts related to public services and utilities:

CC Alternative.
CC-ALPV Alternative.
A7C-ALPV Alternative.
AIO Alternative.
I-5 Alternative.

7.26 SUMMARY OF IMPACTS, MITIGATION AND LEVEL OF SIGNIFICANCE AFTER MITIGATION RELATED TO RECREATION RESOURCES

7.26.1 THRESHOLDS OF SIGNIFICANCE RELATED TO RECREATION RESOURCES

7.26.1.1 Thresholds Related to the Temporary Use and/or Permanent Acquisition of Property

An Alternative would result in a potentially significant adverse impact related to the temporary use and/or permanent acquisition property if it results in the removal of recreation amenities that cannot be temporarily and/or permanently relocated elsewhere within the property or if the removal of property significantly impairs the existing and/or planned function of the facility as a recreation resource such that they cannot be used for their designed functions.

7.26.1.2 Thresholds Related to Noise

As discussed earlier in Section 4.6 (Affected Environment, Impacts and Mitigation Measure Related to Noise), certain uses have applicable outdoor noise standards and others do not. Noise standards apply to school sports fields, golf courses, city and local parks. Noise standards do not apply to open space, trails and proposed recreation resources. For regional and state parks, noise standards apply only in areas of frequent human use such as campgrounds, sports fields and areas with outdoor facilities which encourage outdoor recreation use.

The majority of construction-related noise impacts of the SOCTIIP Alternatives would occur within the allotted hours in accordance with applicable local jurisdictions' Noise Ordinances. However, pile driving activities and bridge construction activities on I-5 will likely occur outside regular construction noise hours, resulting in the potential for significant adverse short-term noise impacts based on the local Noise Ordinances. Therefore, these would be significant adverse impacts that cannot be mitigated to below a level of significance.

Assuming the noise standard applies to the recreational resource, an Alternative would result in a potentially significant adverse noise impact under CEQA if it:

- Results in short-term construction related noise levels at a recreation resource that exceed the applicable local jurisdiction's noise guidelines or regulations for construction noise and those noise levels would be expected to adversely affect the use of the recreation resource during construction.
- The operation of the Alternative results in long-term noise levels at the recreation resources greater than 66 decibels (dBA).

7.26.1.3 Thresholds Related to Transportation

An Alternative would potentially result in a significant adverse impact on a recreation resource related to transportation if it:

- Reduces or restricts access on the public road or roads which provide direct access to the resource.
- Results in a substantial change in which traffic generated by the SOCTIIP Alternative inhibits existing users from accessing a resource due to extensive traffic delays. For this analysis, delays were considered substantial if vehicular access to the resource increased by more than 20 minutes for neighborhood parks, 40 minutes for community parks and 60 minutes for regional and state parks as a result of the SOCTIIP Alternatives.

7.26.1.4 Thresholds Related to Air Quality

An Alternative would potentially result in a significant short-term adverse air quality impact on recreation resources during construction if the resource is within 45.7 meters (150 feet) of the road centerline and there are no intervening land uses or topography between the resource and the construction area.

As discussed in Section 4.7 (Affected Environment, Impacts and Mitigation Measures Related to Air Quality), none of the build Alternatives results in an increase in the number or severity of air quality standard exceedences during operations. Therefore, none of the Alternatives are expected to result in an adverse impact on recreation resources in the long-term.

7.26.1.5 Thresholds Related to Visual Impacts

An Alternative would result in potentially significant adverse visual impacts on a recreation resource if it introduces views of the project into views from resources which previously had unobstructed views of surrounding areas and those previous views were considered important and would include views of the features of the SOCTIIP Alternatives. For example, a recreational resource in an urbanized area in close proximity to a highway or road facility would not be considered to experience substantial adverse visual impacts due to construction of the SOCTIIP Alternative. Conversely, a designated nature area that includes unimpaired views of the surrounding undeveloped areas could be adversely impacted, depending on the nature and degree to which views were affected by topography, elevation and other factors.

7.26.2 ADVERSE IMPACTS AND LEVEL OF SIGNIFICANCE BEFORE AND AFTER MITIGATION RELATED TO RECREATION RESOURCES

Table 7.26-1 summarizes the potential adverse impacts of the SOCTIIP Alternatives related to the temporary use and permanent acquisition of property, air quality (short-term), noise (short-term and long-term), traffic and visual on recreation resources in the study area. For each Alternative, the potentially affected resources, impacts on those resources, applicable mitigation measures and level of significance after mitigation are provided. The Preferred Alternative is a refined alignment based on the A7C-FEC-M-Initial Alternative. As such, the potential impacts of the Preferred Alternative on recreation resources would be similar to the impacts of the A7C-FEC-M-Initial Alternative. The Preferred Alternative will be limited to a maximum of six lanes.

7.26.3 SIGNIFICANT ADVERSE IMPACTS REMAINING AFTER MITIGATION RELATED TO RECREATION RESOURCES

As shown in Table 7.26-1, the following SOCTIIP build Alternatives will result in significant adverse impacts on one or more existing and/or planned recreation resources which cannot be mitigated to below a level of significance:

FEC-W Alternative.
FEC-M Alternative.
CC Alternative.
CC-ALPV Alternative.
A7C-ALPV Alternative.
A7C-FEC-M/Preferred Alternative.
AIO Alternative.
I-5 Alternative.

7.26.4 MITIGATION MONITORING AND REPORTING PROGRAM

Public Resources Code Section 21081.6 (enacted by the passage of Assembly Bill 3180) mandates that a public agency approving a project for which an EIR has been prepared under CEQA must also adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program must be designed to ensure compliance with project conditions/mitigation during implementation of the project.

The mitigation monitoring and reporting program for the proposed project (Preferred Alternative) has been prepared in compliance with Public Resources Code Section 21081.6. It describes the requirements and procedures to be followed by the TCA and FHWA to ensure that all mitigation measures adopted as part of the proposed project will be carried out as described in this EIS/SEIR.

Table 7.26-2 lists each of the mitigation measures specified in this EIS/SEIR and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 7.26-21
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.1 Mitigation Measures Related to Traffic and Circulation		
8.1.1 Measures for Short Term Construction Impacts		
Measure CT-1. A Construction Traffic Management Plan (CTMP) will be developed during final design by the TCA or other implementing agency/agencies. The CTMP will include, but not be limited, to: • Identification of designated haul routes in consultation with the affected local jurisdictions. • Limiting construction truck and haul traffic to designated routes only. • Public information and promotional activities including distribution of newsletters, brochures, 24-hour information hot line and press releases. The TCA or the implementing agency/agencies will coordinate with businesses adjacent to the construction areas and prepare plans for improving carpooling, transit and other shared ride services. • The use of fast track construction techniques to speed construction times. • Construction scheduling (start/stop times, major materials deliveries, export hauling, etc.) should be scheduled to avoid AM and PM peak traffic periods on adjacent streets to the extent feasible, so that the majority of construction related traffic occurs outside of peak commuting times. • Identification of alternative routes and routes across the construction areas for emergency and school vehicles developed in coordination with the affected agencies. • Changeable message boards and alternative route signs should be used. • Identification of additional traffic enforcement (increased patrols), as needed to ensure public safety in the vicinity of construction areas and detour routes. • Coordination and implementation of improved/modified signal timing and synchronization at intersections near the construction area and along routes adversely affected by construction traffic. • Installation of visual barriers or paddle screens around construction areas to help reduce "rubbernecking" by travelers. • Coordinate with Caltrans and local agencies to ensure that signage for haul routes, detour routes and public information is consistent.	TCA or other implementing agency/agencies	During final design and ongoing during construction

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measures for Alignment 7 Corridor-Far East Crossover-Modified/Preferred Alternative		
There were no mitigation measures.	N/A	N/A
8.2 Mitigation Measures Related to Land Use		
8.2.1 Measure LU-1: Impacts on Existing Land Uses. If a SOCTIIP build Alternative is selected, design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design of the selected Alternative, where prudent and feasible.	TCA	During final design
8.3 Mitigation Measures and Commitments Related to Farmland		
8.3.1 Measure AG-1: Existing Operations on RMV. During final design, and in coordination with RMV and its agricultural leaseholders, the contractor will finalize the realignments of access roads on the ranch to provide cattle and equipment crossings to minimize impediments to cattle movement and routine agricultural operations and normal business activities.	Contractor, with oversight by TCA	During final design
8.3.2 Measure AG-2: Existing Operations on RMV. Prior to the start of any construction activities, any corrals and/or windmills within the disturbance limits of a SOCTIIP build Alternative will be relocated or replaced. In the event that the RMV or the leaseholder does not want the facility relocated, appropriate compensation for the facility will be provided.	TCA	Prior to start of construction
8.3.3 Measure AG-3: Agricultural Operations on Camp Pendleton (San Clemente Ranch). During final design, the contractor will develop a realigned access Rd for the San Clemente Ranch to ensure all-weather access to the agricultural operations in the leased area on MCB Camp Pendleton. The timing of the construction of this realigned access Rd will be coordinated with the agricultural operator to ensure that peak operation times are not affected. The realigned Rd must be completed prior to closure of the existing Rd.	Contractor, with direction/oversight by TCA	During final design
8.3.3 Commitment AGC-1: Existing Operations on RMV. Prior to the start of any construction activity, written notification will be provided to agricultural property owners or leaseholders immediately adjacent to the disturbance limits for the SOCTIIP build Alternative. The notification is to indicate the intent to begin construction, including an estimated date for the start of construction. This notification shall be provided at least three, but no more than 12, months	Contractor, with direction/oversight by TCA	At least 3 months and no more than 12 months prior to the start of construction activity

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
prior to the start of construction activity.		
8.4 **Mitigation Measures Related to Socioeconomics**		
8.4.1 Measure SE-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Residential and Non-Residential Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the permanent acquisition of land currently occupied by residential and non-residential users. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of residential and non-residential property will apply to the build Alternatives.	TCA or implementing agency/agencies	During final design
8.4.2 Measure SE-2: Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA or other agencies implementing a SOCTIIP Alternative (because the TCA will not be the implementing agency for the non-corridor Alternatives) will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.	TCA or other implementing agency/agencies	Prior to acquisition of right-of-way
8.4.3 Measure SE-3: Replacement Housing Program. Prior to demolition of any affordable units, the TCA or other implementing agency/agencies shall enter into an agreement with the City of San Clemente to provide replacement affordable housing in compliance with the requirements of the City of San Clemente Housing Element. This shall be accomplished through the provision of replacement housing or the payment of in lieu fees. No other jurisdictions in the displacement area have similar programs. The City of San Clemente's Housing Element requires that three or more dwelling units in the Coastal Zone	TCA or other implementing agency/agencies	Prior to demolition of any affordable housing units

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
which are to be demolished or converted, and which are currently occupied by households whose income is 80 percent or below the County median income, be replaced.		
8.5 Mitigation Measures Related to Pedestrian and Bicycle Facilities		
8.5.1 Measure R-1: Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.	TCA or implementing agency/agencies	During final design
8.5.2 Measure R-2: Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA or implementing agency/agencies will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to: • Identify and implement opportunities to protect recreation resources in place. • Identify and implement opportunities to replace lost recreation facilities within the existing recreation property. • Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.	TCA or implementing agency/agencies	Prior to acquisition of right-of-way
8.5.3 Measure R-3: Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the	TCA or implementing agency/agencies	Prior to acquisition of right-of-way

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.		
8.5.3 Measure R-4: Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.	TCA or implementing agency/agencies	Prior to acquisition of right-of-way
8.5.4 Measure R-5: Impacts on Trails. During final design, the TCA or implementing agency/agencies will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local ~~jurisdictions~~ agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.	TCA or implementing agency/agencies	During final design
8.6 Mitigation Measures Related to Noise		
8.6.1 Mitigation Measures for Construction Noise Impacts		
Measure N-1: Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide	Contractor	During construction

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance), approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.		
Measure N-2: Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.	Contractor	During construction
Measure N-3: Schools Adjacent to Construction Zone. Prior to construction activities in the vicinity of any school, the construction contractor shall be responsible for developing an agreement with ~~Capistrano Unified~~ Fallbrook Union Elementary School District, Camp Pendleton and private school operators, as appropriate, that would mitigate construction noise levels in classrooms and playfields at the affected schools to an agreed to construction noise performance standard. Each agreement shall be completed prior to the initiation of any grading on construction within 600 m (2,000 ft) of the school	Contractor	Prior to construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
grounds. Examples of noise mitigation options include construction of temporary soundwalls, and limitation of some of the noisiest construction activities to periods when the schools are closed (e.g., the summer for the two public schools).		
Measure N-4: Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.	Contractor	Prior to construction
Measure N-5: Nighttime Demolition. Nighttime demolition activities may occur under the I-5 Alternative. The implementing agency shall ensure that residents within 300 m (1,000 ft) of the demolition area are notified in advance that demolition activities will occur. Qualified residents within 300 m (1,000 ft) requesting relocation during the nighttime demolition activities should be provided with hotel vouchers at a local hotel but outside the demolition impact zone by the implementing agency.	Implementing agency	In advance of nighttime demolition activities
Measure N-6: Noise Complaint Officer. Prior to construction activities, the construction contractor shall identify a Noise Complaint Officer and establish a Noise Complaint hotline. The Noise Complaint Hotline shall be able to receive calls on a 24 hour basis. Any complaints regarding construction shall be forwarded to the Noise Complaint Officer. The Noise Complaint Officer shall record the general description of the complaint, the time the offending noise occurred and the location of the complaint. The Officer shall attempt to measure the noise that generated the complaint within the following 24 hours. If the noise levels exceed those allowed during nighttime construction activities under the local Noise Ordinance, or activities are occurring that are inconsistent with the noise mitigation measures, then the construction contractor shall be responsible for correcting those problems within the following 48 hours. The noise levels measured and any corrective actions shall be recorded with the original complaint form.	Contractor	Prior to construction
8.6.2 Mitigation Measures for Long Term Noise Impacts		

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Measure N-7: Final Noise Analysis. During final design of the selected Alternative, the TCA or the implementing agency/agencies will prepare a final noise analysis based on the detailed and finalized design developed during final design for the selected Alternative. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA or the implementing agency/agencies will finalize noise mitigation requirements for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e. final design) for building purposes.	TCA or implementing agency/agencies	During final design
Measure N-8: Long Term Noise Impacts. During construction, the TCA or the implementing agency/agencies shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation	TCA or implementing agency/agencies and Contractor	During construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
(i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.		
8.6.3 Commitments Related to Long Term Noise Impacts		
Commitment NC-1: Determination of Reasonableness. During final design, the TCA or the implementing agency/agencies shall determine the reasonableness of soundwall/berm placement and consider the life cycle of the sound barrier, the potential environmental impact of the mitigation, opinions of impacted residents, input from the public and local agencies, and social, economic and environmental factors consistent with the FHWA/Caltrans feasibility criteria.	TCA or implementing agency/agencies	During final design
Commitment NC-2: Soundwall/Floodplain. During final design, if the TCA or the implementing agency/agencies locates a soundwall/berm in a floodplain, the TCA or the implementing agency/agencies shall prepare an evaluation of the effects of the soundwall on the floodplain in accordance with appropriate guidelines and design manuals. The design and location will be determined to ensure there is no exceedance of the one foot elevation of the base floodplain. Early recognition and analysis of potential problem areas will be made to determine if wall openings or staggered wall openings are viable for those barriers.	TCA or implementing agency/agencies	During final design
8.7 Mitigation Measures Related to Air Quality		
8.7.1 Mitigation Measure for Short Term Air Quality Impacts		
Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403. After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor: a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas. b. Soil binders will be spread.	Contractor	During construction and after clearing, grading, earth moving or excavation

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust. d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.		
Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.	Contractor	During construction
Measure AQ-3. During construction, the contractor shall be responsible for sweeping ~~All~~ all public streets adjacent to the project site ~~shall be swept~~ once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.	Contractor	During construction
Measure AQ-4. During construction, the contractor shall be responsible for ~~i~~installing wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.	Contractor	During construction
Measure AQ-5. During final design, contractor specifications shall require that contractors implement the following measures: • Use low emission mobile construction equipment. • Maintain construction equipment engines by keeping them tuned.	Contractor	During final design and construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. • Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators. • Configure construction parking to minimize traffic interference. • Minimize obstruction of through-traffic lanes. When feasible, construction should be planned so that lane closures on existing streets are kept to a minimum. • Schedule construction operations affecting traffic for off-peak hours. • Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service). • Include in construction grading plans a statement that work crews shut off equipment when not in use. • Support and encourage ridesharing and transit incentives for the construction crew.		
Measure AQ-6. During construction, any material deposited onto paved roads due to a major storm event must be removed within 72 hours of the event by the contractor. Additional time is allowed for mudslides or similar events that block traffic over the material. In the event of road closures due to mudslides or other overwhelming accumulations of material, public access should be restricted until all the material is removed.	Contractor	During construction
8.7.2 Mitigation Measures for Long Term Air Quality Impacts		
Measure AQ-7. ~~This~~ During construction, the contractor shall be responsible for implementing a control measure which specifies three "preventive" and one "mitigative" control option(s) that would be mandatory of all unpaved road connections with paved public roads. The four mandatory control options include: • Paving the last 100 feet from an unpaved roadway connection with a paved road;	Contractor~~TCA~~	During construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Chemical stabilization of the last 100 feet from an unpaved roadway connection with a paved road at sufficient frequency and concentration to maintain a stabilized surface at all times. • Installation of dirt removal devices (e.g., tire cleaning device, grizzlies, etc.); • Cleaning of public paved road surface at any time visible track-out occurs.		
8.8 Mitigation Measures Related to Floodplains, Waterways, and Hydrologic Systems		
Mitigation measures concerning impacts to floodpains, waterways and hydrologic systems are measures WQ-1 to WQ-4. Refer to Section 8.9 (Mitigation Measures Related to Water Quality) for a description of these measures.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
8.9 Mitigation Measures Related to Water Quality		
8.9.1 Measure WQ-1: Preservation of Adjacent Existing Vegetation. The TCA or other implementing agency/agencies, as appropriate will preserve to the extent feasible existing vegetation at areas on the construction site where either no construction activity is planned or where it will occur at a later date. The vegetation will be preserved according to the California Storm Water BMPs Municipal Handbook (1993) as listed in the RMP.	TCA or other implementing agency/agencies	During construction
8.9.2 Measure WQ-2: Construction Site BMPs. The TCA or other implementing agency/agencies, as appropriate will implement construction site BMPs as appropriate, during construction of the SOCTIIP Alternatives. These BMPs are described in the California Best Management Practice Handbooks for Construction (1993, revision pending), Caltrans, SWMP and Storm Water Quality Handbooks. BMP categories include measures for temporary sediment control, temporary soil stabilization, scheduling, preservation of existing vegetation, conveyance controls, wind control, temporary stream crossings and waste management as well as many other measures which may be implemented during construction of a highway project. These measures are consistent with requirements set forth under the California State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit), which governs storm water and non-storm water	TCA or other implementing agency/agencies	During construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
discharges during construction activities, as well as with those requirements set forth in the Caltrans Permit Order No. 99 - 06 - DWQ (CAS 000003). These BMPs are directed at reducing storm runoff pollutants and eliminating non-storm water discharges.		
8.9.3 Measure WQ-3: Storm Water Pollution Prevention Plan (SWPPP). Prior to start of soil-disturbing activity at the project site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with and to partially fulfill the General Construction Permit. The SWPPP will be prepared per the SWPPP and Water Pollution Control Program (WPCP) Preparation Manual, (Storm Water Quality Handbooks, November 2000.) The SWPPP will meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology (BAT) which is economically achievable and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP will be implemented concurrently with commencement of the soil-disturbing activity. The SWPPP will need to be certified in accordance with the signatory requirements of the General Construction Permit.	Contractor	Prior to start of soil-disturbing activities
8.9.4 Measure WQ-4: Spill Contingency. Emergency planning for highway spills will be addressed by both operational and structural BMPs. The TCA, Caltrans, or other implementing agency/agencies, as appropriate, will take primary responsibility for spill clean-up and contingencies during construction and operation of the project, though coordination with other agencies will be necessary. Operational BMPs include immediate emergency notification through 911 during a spill event. After emergency notification, the following notifications will occur: • The local fire department and the Orange County Fire Authority will then be notified, and emergency actions (road closures, medical evacuation, cleanup of hazardous materials, etc.) will be taken; if the spill occurs on or affects MCB Camp Pendleton, these authorities will be notified. • If the spill is above the Reportable Quantity (RQ), the State Office of	TCA, Caltrans or other implementing agency	During construction and operation of the project

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Emergency Services (800.852.7550) will be contacted and a control number provided. The National Response Center (800.424.8802) will be contacted to comply with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements. The California Hazardous Material Incident Reporting System (CHMIRS) (916.427.4287) will be notified (assuming the spill volume is more than four liters (two gallons)) and appropriate forms filled out.		
8.9.5 Measure WQ-5: Operations, Maintenance and Monitoring Plan. When an alternative is selected for implementation an Operations, Maintenance and Monitoring Plan will be developed in consultation with the appropriate agencies, i.e. Caltrans. Maintenance objectives for project BMPs will be addressed and formalized in the Operation, Maintenance and Monitoring Plan. Caltrans will monitor the BMPs to ensure maintenance objectives are being met. Details of the monitoring will comply with Caltrans Storm Water Policy and requirements of the 401 Certification with Caltrans as the holder of the statewide permit for state highways.	TCA and Caltrans	After an alternative is selected for implementation and ongoing during operation of the project
8.9.6 Measure WQ-6: Monitoring of BMPs. For the corridor Alternatives, the TCA will monitor Caltrans' maintenance of the BMPs for five years to assure compliance with maintenance criteria and schedules. The TCA will provide annual reports to the Regional Water Quality Control Boards documenting the maintenance of the BMPs.	TCA	For five years after project opening
8.10 Mitigation Measures Related to Wetlands and Waters of the United States		
8.10.1 Measure WW-1. Prior to construction, the TCA or other implementing agency/agencies shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.	TCA, Caltrans or other implementing agency/agencies	Prior to construction
8.10.2 Measure WW-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. The TCA or other implementing agency/agencies Environmental and Engineering Staff shall determine the implementation of those recommendations	Project Biologist, in consultation with TCA or other implementing agency/agencies	During final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.10.3 Measure WW-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues during construction and operation to be addressed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA, the California Coastal Commission and Caltrans for review ~~and approval~~ to the extent required by permit by such agencies. The primary goals of the BRMP ~~will be~~are to ensure that (1) the long-term perpetuation of the existing diversity of habitats through restoration in the project area and adjacent urban interface zones and to ~~prevent~~ minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum the following: a. Identification of all Environmental Sensitive Areas (ESA). ESAs are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS. b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas. c. Locations of trees to be protected as wildlife habitat (roosting sites). d. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment,	Project Biologist, in consultation with TCA or other implementing agency/agencies	Prior to construction

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the right-of-way. • Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. e. Specific measures for the protection of sensitive habitats to be preserved in and adjacent to the right-of-way to ensure that construction does not increase beyond the impacts identified in the EIS/SEIR. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be provided in the Storm Water Pollution Prevention Plan (SWPPP). f. A summary of the type and quantification of habitats to be removed. g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way.		

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake and San Diego cactus wren. i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits and biological monitoring requirements. Details of the erosion, siltation and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP). j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements. k. Or equivalent measures, e.g., environmental permits.		
8.10.3 Measure WW-4. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas) within 152.4 meters (500 feet) of the grading limits on the grading plans. The ESA maps shall be prepared by the construction contractor's qualified biologist and approved by the TCA or other implementing agency/agencies. All ESAs to be avoided and performance standards established by the resource agencies	Project Biologist	During preparation of final construction plans and specifications

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials be local southern Orange County natives.		
8.10.4 Measure WW-5. During grading activities and construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, falsework installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist. Biological monitoring shall be conducted to document adherence to habitat avoidance and minimization measures addressed in the project mitigation measure and as listed in the USFWS, CDFG, and USACOE permits/agreements.	Project Biologist	During grading and construction activities
8.10.5 Measure WW-6. Final design and construction shall restore the perennial river and stream channels and ephemeral drainages and washes to their original contours upon completion of construction where feasible, with the exclusion of areas of permanent impact.	Project Biologist	Upon completion of construction
8.10.6 Measure WW-7. During all construction activities, the Contractor shall ensure that construction equipment or vehicles shall not be stored in areas defined as ESAs, including areas within the jurisdiction of the USACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or USACOE jurisdictional areas. Construction equipment staging/storage shall be located in previously disturbed or non-native areas to the maximum extent possible	Contractor, with oversight by Project Biologist	During construction activities
8.10.7 Measure WW-8. During all construction activities, the Contractor shall ensure that no waste material shall be discharged to any CDFG or USACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or USACOE jurisdictional areas, or in areas where it could be washed into any surface water body.	Contractor, with oversight by Project Biologist	During construction activities
8.10.8 Measure WW-9. Prior to final design, the Contractor shall prepare the final construction Runoff Management Plan (RMP). The plan shall address the final location of facilities to route and detain corridor runoff for the purpose of maintaining peak flows and flow velocities downstream of the Alignment at	Contractor	Prior to final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
existing rates and preventing project pollutants from reaching improved and unimproved downstream drainages. County of Orange Best Management Practices (BMPs) will be included in these runoff facilities of the Alternatives as determined appropriate by the Design Engineer. The final RMP will contain provisions for changes to the plan (e.g., alternative mechanisms plant materials) if necessary during project design and/or construction phases to achieve the stated goals and performance standards at an equal or greater level. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The plan shall be submitted to the Regional Water Quality Control Board (RWQCB), Caltrans, and the Orange County Environmental Management Agency (OCEMA) Environmental Planning Division for review and comment. (RMP, Psomas 2003.)		
8.10.9 Measure WW-10. The Contractor shall locate staging areas for construction equipment outside of areas in the jurisdiction of the USACOE or CDFG to minimize impacts to sandy creek benches.	Contractor, with oversight by Project Biologist	Prior to construction
8.10.10 Measure WW-11. Prior to final design, the TCA or implementing agency shall prepare a jurisdictional delineation documenting the Waters of the U.S. and wetlands, CDFG, and CCC jurisdictional impacts for the selected alternative. Prior to final design, the TCA or implementing agency shall prepare a functional assessment of the wetland mitigation plan according to the tenets of the USACOE Regulatory Guidance Letter 02 2 to assure that the functions and values have been replaced and that no net loss of waters and wetland values occur. Habitat replacement guidelines shall be developed to identify and quantify habitats that will be removed along with the locations where habitats will be restored or relocated to ensure no net loss.	TCA or other implementing agency/agencies	Prior to final design
8.11 Mitigation Measures Related to Wildlife, Fisheries, and Vegetation		
8.11.1 Measure WV-1. Mitigation measure WV-1 is the same as mitigation measure WW-1 in Section 8.10. Please see mitigation measure WW-1.	See mitigation measure WW-1 in Section 8.10	See mitigation measure WW-1 in Section 8.10
8.11.2 Measure WV-2. During final design of the project, the TCA or other implementing agency's Project Biologist shall review the design plans and	Project Biologist	During final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
make recommendations for avoidance and minimization of sensitive biological resources. TCA or other implementing agencies Environmental and Engineering Staff shall determine the implementation of those recommendations.		
8.11.3 Measure WV-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA and Caltrans for review ~~and approval~~to the extent required by permit by such agencies. The primary goal of the BRMP will be to ensure the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones. The BRMP shall contain at a minimum the following: a. Identification of all Environmental Sensitive Areas (ESA). ESA are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS; areas supporting endangered, threatened or rare species; and areas supporting vegetation communities described as sensitive. b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas. c. Specific procedures during construction for the protection of sensitive plant, amphibian, reptile, bird, and mammal species, including perimeters around drip line oak trees. d. Locations of trees to be protected as wildlife habitat (roosting sites). e. Procedures for topsoil preservation and erosion control. f. A summary of the type and quantification of habitats to be removed. g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition,	TCA or other implementing agency/agencies and Project Biologist	Prior to construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include: • Sources of plant materials and methods of propagation. • Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way. • Remedial measures to be taken if performance standards are not met. • Methods and requirements for monitoring of the restoration efforts. • Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas. h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake, and San Diego cactus wren. i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP). Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and		

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.		
8.11.3 Measure WV-4. During grading activities and/or construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, false work installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist.	Project Biologist	During grading activities and/or construction operations
8.11.4 Measure WV-5. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA and/or other implementing resource agencies.	Project Biologist	Monthly during grading activities and construction operations
8.11.5 Measure WV-6. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall attend preconstruction meetings with construction foremen, bridge engineers, and the TCA or other implementing agencies to confirm that all environmental conditions are discussed. Monthly, or on an as needed basis, new construction personnel shall complete an educational program. Issues to be covered will include, but are not limited to, environmental measures for avoiding impacts to sensitive biological resources, ESAs, waste disposal, vehicle transportation routes, seasonal restrictions, fueling/maintenance restrictions, and other relevant topics.	Project Biologist	Prior to the commencement of grading activities or other activities involving vegetation/habitat removal
8.11.6 Measure WV-7. In conjunction with final design, the Project Biologist shall work closely with the ~~project landscape architects~~ (Contractor) to develop native plant palettes for revegetation areas adjacent to the roadway that abut natural open space and will be implemented by the Contractor. Final landscape design plans, which will be approved by the TCA or other implementing agencies, shall reflect the following and shall be incorporated into the BRMP: • The landscaping along the corridor in open space (non-urban) areas shall be	Project Biologist, in conjunction with Contractor and with oversight by TCA or other implementing agency/agencies	During final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
a mix of native, non-invasive, drought tolerant plant species from the scrub, grassland, and chaparral communities. All plants used shall comply with federal, state, and county laws requiring inspection of infestation. The vendor shall provide certification of inspection from the County of Orange and/or San Diego department of agriculture. The Project Biologist shall also inspect all plants before accepting delivery. • The landscaping community type installed shall be consistent with the plant communities that occur in the vicinity of the intended landscape area. • Seeds, cuttings, and potted plants shall be collected from local plant material as appropriate, supplemented by material from native plant nurseries. The seed vendor shall furnish certification that the seed has been tested for purity by a certified seed laboratory and does not contain seed of any non-native, invasive species. • Native California plant species found in the project area shall be used. Invasive, noxious weed, or non-native species identified on the State of California List of Noxious Weed Species or the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List shall not be used in landscaping along open space areas. • All mulches used shall be free of invasive species seed. • Landscape areas shall be subject to maintenance during plant establishment (i.e., non-native species removal) that will be directed by the Project Biologist. However, the landscape areas shall not be subject to performance standards and will not be subject to mitigation in the future if construction occurs. • Temporary low-volume irrigation systems, using reclaimed water (where available), shall be included in the final design of the selected alternative. Portions of the landscaped areas within the Caltrans maintenance area and adjacent to the roadway may be subject to fuel modification requirements, which may preclude the use of many project-indigenous species. In these instances, plant palettes may contain both the California native plant cultivars which will be purchased and indigenous plant species found in the project area. This is due to the limited number of indigenous plant species included within		

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
the Orange County Fire Authority Fuel Modification Plant List.		
8.11.7 Measure WV-8. Mitigation measure WV-8 is the same as mitigation measure WW-4 in Section 8.10. See mitigation measure WW-4.	See mitigation measure WW-4 in Section 8.10	See mitigation measure WW-4 in Section 8.10
8.11.8 Measure WV-9. Caltrans procedures shall be followed for the protection of ESAs. These procedures are: (1) no construction access, parking, or storage of equipment or materials will be permitted within marked ESAs or other jurisdictional areas; (2) to the maximum extent practicable, construction access points shall be limited in proximity to protected habitat; (3) waste, dirt, and trash shall not be deposited on protected habitat; (4) vehicle transportation routes shall be confined to the narrowest practicable area in areas adjacent to marked, protected habitats during construction/operations activities, (5) no construction personnel shall be permitted access to these areas except for the purpose of invasive species removal without the Project Biologist's approval, and (6) disposal of trash adjacent to ESAs shall be removed/emptied on a daily basis.	Contractors	During construction
8.11.9 Measure WV-10. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall field verify that protective fencing (t bar/yellow rope and silt fencing when construction is upslope from sensitive habitat) has been installed along the disturbance limits. Additionally, the Project Biologist shall verify that all other Caltrans procedures for ESAs, identified and mapped on grading plans, have been installed by the construction contractor. These protective fencings shall be field verified by the Project Biologist on a regular basis.	Project Biologist	Prior to commencement of grading or other activities involving vegetation/habitat removal and regularly during grading and construction
8.11.11 Measure WV-11. To ~~partially~~ mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 hectares (1,182 acres) created by the TCA to mitigate biological impacts resulting from construction of the FTC N. Of these 478.7 hectares (1,182 acres), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In	TCA	Prior to commencement of grading

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, non-wetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives. a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost). b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA or other implementing agencies and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG. c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.4 ha [one ac] for every 0.4 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.		
8.11.12 Measure WV-12. (Duplicate of Measure TE-26). Impacts to native	TCA and Project	Prior to commencement of grading

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
grasslands shall be mitigated at a 1:1 ratio through either preservation or restoration in designated open space (e.g., Upper Chiquita Canyon Conservation Easement). Should restoration be proposed, the restoration areas shall be located in areas deemed appropriate by the project biologist for native grassland restoration. Restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The restoration program for native grassland areas shall be included in the BRMP and shall include the following measures. • Site analysis for appropriate soils. • Site preparation specifications based on site analysis, including but not limited to grading, and weeding. • Specifications for plant and seed material appropriate to the locality of the mitigation site and the timing of restoration activities. • Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation. Restoration areas shall be considered successful at five years if the following standards are achieved: • The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Soil at the site exhibits a level of beneficial arbuscular mycorrhizal fungi that is comparable to an appropriate reference site, as demonstrated through soil infestivity potential. • Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit. • An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for five years (or less if site meets success criteria as designated above earlier) to ensure successful establishment of native	Biologist	and ongoing for five years after establishment of restoration areas

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
grassland vegetation within the restored areas. If success standards are not met, remedial measures, hydroseeding, or introduction of container stock shall be implemented as directed by the Project Biologist.		
8.11.13 Measure WV-13. a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.4047 ha (one ac) of the identified resource for every 0.4047 ha (one ac) of the applicable resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if: • The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 70 percent. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.	TCA and Project Biologist	Prior to commencement of grading and ongoing for five years after establishment of restoration areas

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
For coast live oak woodland, the following standards shall apply: • The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.		
8.11.14 Measure WV-14. In conjunction with construction activity, the Contractor shall control dust accumulation on natural vegetation at the source of disturbance by standard dust control measures (Mestre Greve Associates 2003).	Contractor	During grading and construction
8.11.15 Measure WV-15. Prior to final design of the selected alternative, the Project Biologist shall ensure that the location of the proposed wildlife bridges and culvert identified in the NES will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. Upon selection of and refinement to, the selected alternative, smaller culverts and bridges that will be necessary to provide drainage and/or avoid impacts to jurisdictional areas shall also be designed, at the direction of the Project Biologist, to promote local and regional wildlife movement.	Project Biologist	Prior to final design
8.11.16 Measure WV-16. Prior to, or in conjunction with, the permit of application and/or process, Caltrans (Environmental and Maintenance) and	TCA and Project Biologist	Prior to, or at the time of, resource agency permit application and/or

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
resource agencies are to be given an opportunity for review and approval of the design of wildlife movement bridges, undercrossings, and culverts. The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads. a. Wildlife bridges and culverts shall be designed to provide approaching animals a clear view of the habitat or horizon on the opposite site of the structure. The minimum width at the base of the wildlife bridge or culvert shall be six m (20 ft). The minimum vertical clearance shall be 5.2 m (17 ft) from the floor of the bridge/culvert to the bottom of the structure. No artificial lighting shall be installed or used in or around the bridge/culvert, unless otherwise required to meet Caltrans approval. The ground surface of the wildlife bridges and culverts shall be constructed with a slope ratio of 1:1.5 (V:H). b. Dirt or natural vegetation substrates, rather than concrete or other human-made material, will be placed along the bottom of the bridges or culverts as reasonably feasible.		process

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
c. Vegetation naturally occurring on the side slopes to the entrances to the underpass will not be removed, to the extent feasible. Where natural vegetation at underpass entrances does not occur, is minimal, or has been removed as a result of bridge or culvert construction, vegetation shall be planted along the slopes that match the closest intact native vegetation. Low-lying shrubs and/or small trees native to the area will be planted to encourage wildlife use of the underpass. d. The appropriate vegetation-type and quantity will be determined by the Project Biologist during construction of the underpass and will consist, at a minimum, of appropriate large shrubs and trees that will achieve at least 1.5 m (five ft) in height at maturity. The replanting will occur during the final stages of underpass construction or immediately following construction in the appropriate season for planting. The planting of vegetation at bridges over drainages shall be compatible with flood control requirements. e. Materials such as rip-rap will not be used in or around the underpass entrances unless required by hydrology/hydraulic conditions.		
8.11.17 Measure WV-17. Prior to operation of the corridor, ~~C~~chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the project biologist, TCA or other implementing agencies, USFWS, FHWA and Caltrans. Wildlife fencing adjacent (100 m/328 ft) to wildlife movement underpasses will be inspected semiannually to identify and repair any gaps or tears in the fence caused by erosion, storm events, vandalism, burrowing animals, or other means that could allow wildlife access onto the roadway surface. TCA or other implementing agencies will be responsible for the wildlife fencing for the first three years of completing the corridor, with Caltrans assuming responsibility thereafter.	TCA or other implementing agency/agencies and Caltrans	During construction and ongoing for three years after project opening
8.11.18 Measure WV-18. Prior to operation of the corridor, road signs	Project Biologist and	Prior to operation of the corridor

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
indicating the potential for deer and mountain lion movement shall be installed where indicated by the Project Biologist, due to the potential for wildlife to circumvent the wildlife fencing.	Contractor	
8.11.19 Measure WV-19. All bridges and culverts in the final design plan will be monitored for a period of three years to document the effectiveness of use ~~by target species~~. Target species to be evaluated shall be determined by the Regulatory permits, including: USFWS, ACOE and CDFG~~Project Biologist~~, specific to each bridge and culvert. Wildlife movement studies will be conducted at each underpass twice each year for at least eight weeks during the periods between March and May and between September and November. The studies will begin during the first full time period (beginning with March or September) occurring after the opening of the corridor. Reports will be prepared and submitted to the TCA or other implementing agencies annually. Based on results of surveys, recommendations to enhance wildlife use of underpasses shall be provided as appropriate (i.e., fencing modification, vegetation enhancement, or clearing, etc.).	Project Biologist	For three years after project opening
8.11.20 Measure WV-20. In conjunction with final design, the TCA or other implementing agencies shall incorporate low-light design features, where feasible, adjacent to the following sensitive wildlife habitats: bridges or culverts within wildlife corridors, and scrub, riparian, and woodland communities. One or more of the following design options shall be used, if feasible, recognizing the constraints of roadway lighting requirements: (1) low-intensity street lamps, (2) low-elevation light poles, or (3) shielding by internal silvering of the globes or external opaque reflectors. Design features shall meet Caltrans approval.	TCA or other implementing agency/agencies, subject to Caltrans approval	At time of final design
8.11.21 Measure WV-21. During final design, the TCA or other implementing agencies, in coordination with the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where sensitive fish species do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.	TCA or other implementing agency/agencies	During final design
8.11.22 Measure WV-22. Prior to construction of the selected alternative,	Project Biologist and	During final design and prior to

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance (for all sensitive plant species), and seed collection and salvage measures (for Coulter's saltbush, intermediate mariposa lily, southern tarplant, and many-stemmed dudleya) can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted during the appropriate time of year (i.e., during the flowering period for each species). Locations of sensitive plant species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.	Contractor	construction
8.11.24 Measure WV-24. a. Intermediate mariposa lily seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and individual plants shall be marked with pin flags to facilitate locating individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. b. Seed collection shall be conducted during two successive years and the following three-year program shall be implemented to ensure the likelihood of success. Propagated mariposa lilies typically exhibit a germination rate of 80 percent; this percentage shall be used to determine the number of seeds to be collected to ensure production of the same number of plants as shall be impacted by construction. The propagated plants shall be grown for two years to allow the bulbs to reach optimal size prior to transplantation. The remaining seed not used for propagation from the first year of seed collection shall be divided in half with one-half hand broadcast during the first year and the remaining one-half hand broadcast the following year. c. The propagated plants shall be introduced (over the three-year program),	Project Biologist and Contractor	a. Flagging prior to grubbing or grading; seed collection in late July/early August b. During two successive years and the following three-year program c. During the three-year program

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
using at least a 2:1 ratio, into appropriate habitat in open space dedication areas, or as directed by the Project Biologist. Seeding shall occur in similar areas. Site selection shall be based on the presence of suitable habitat as determined by the Project Biologist. Bulbs from the propagated plants shall be planted at the end of the second growing season. The same program shall be followed for seed collected during the second year. Planting of bulbs and hand broadcasting of seed shall be performed in September or October. d. Re-establishment of intermediate mariposa lily will be monitored for three years following initial planting of the propagated plants and seeding. The survival of the plants will be recorded each year. Establishment of the population will be considered successful when the survivorship of the relocated plants has stabilized with a minimum 10 percent flowering in any one year of the monitoring period and establishment of seedlings from the seeded material is documented.		
8.11.25 Measure WV-25. a. Areas determined to have appropriate hydrology and soil chemistry (salinity) shall be reseeded with seed collected from populations of southern tarplant. Southern tarplant is restricted to saline, vernally mesic areas, often along the margins of estuaries or areas of high salinity. The Project Biologist shall identify candidate areas within open space areas that exhibit suitable conditions for introduction of the tarplant. b. For one year prior to construction as feasible, the TCA or other implementing agencies shall have southern tarplant seed collected by personnel experienced in collection of native seeds. Seed collection shall be conducted during successive years from September through December. One-half of the first years' collected seed shall be hand broadcast at the reintroduction site with the remaining one-half stored in appropriate conditions for introduction the following year. Seed collected during the second season shall be stored for potential later use in the event that success standards are not met following the seeding during years one and two. c. Because southern tarplant is an annual species, population numbers are expected to naturally fluctuate from year to year depending upon	a. Project Biologist b. TCA or other implementing agency/agencies, and Project Biologist c. Project Biologist	a. Prior to construction b. For one year prior to construction c. For three years following initial seeding and additionally, if needed, as specified by the Project Biologist

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
environmental conditions. Reseeded areas shall be monitored for three years following the initial seeding. Establishment shall be considered successful if plant densities during any of the three years of monitoring are comparable to densities of the impacted populations based on sampling quadrants. If established populations do not achieve comparable densities of impacted populations, additional reintroduction sites shall be identified and stored seed, obtained during the collection period, shall be introduced into additional sites over a two-year period (as in the initial reintroduction program described above). The additional sites shall be monitored for three years and shall be considered successful if population numbers at all of the sites achieve densities of impact areas. If established populations have not reached the density threshold following the addition of supplemental sites, further remedial measures shall be implemented as determined appropriate by the Project Biologist.		
8.11.26 Measure WV-26. a. Many-stemmed dudleya caudexes and seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and groups of plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. Twenty-five percent of the seeds collected will be stored with Rancho Santa Ana Botanical Gardens (RSABG) by their standard agreement. The remainder of the seed will be used to establish the dudleya population as described below. b. Caudexes shall be harvested for later planting, using appropriate screens or mesh and shall be conducted by individuals experienced in the salvage of many-stemmed dudleya. Where possible, caudexes will be salvaged by removing soil blocks containing marked dudleya. Both seed and collected caudexes shall be replanted and established at an appropriate site within an open space dedication area at the direction of the Project Biologist. c. Monitoring of the established populations shall be conducted for three	Project Biologist	Prior to grubbing or grading, seed collection in late July or early August, and monitoring ongoing for three years a. Flagging prior to grubbing or grading; seed collection in late July/early August b. Before grubbing and grading c. For three years after plants are established.

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
years. The propagated caudexes shall be introduced (over the three-year program), using at least a 1:1 ratio. Establishment shall be considered successful if planted/seeded populations total 75 percent of the impacted populations and the population demonstrates recruitment of seedlings. If planted/seeded populations do not achieve 75 percent of the impacted populations, additional collection of seed shall be performed and additional caudexes will be propagated. If planted/seeded populations do not achieve 75 percent thresholds, further remedial measures shall be implemented as recommended by the Project Biologist.		
8.11.27 Measure WV-27. Before entering or leaving the construction site, all construction equipment shall be inspected for evidence of invasive species and/or their seeds. Should any plants and/or seeds be detected, the equipment will be washed to ensure no invasive species and/or their seeds will be brought into or removed from the site.	Contractor with assistance from Project Biologist	During construction
8.11.28 Measure WV-28. Prior to construction, substantial populations of invasive plant species identified on the State of California List of Noxious Weed Species and the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List adjacent to the grading limits shall be mapped.	Contractor with assistance from Project Biologist	Prior to construction
8.11.28 Measure WV-29. The Project Biologist shall prepare an invasive species management program to be incorporated into the BRMP. The program shall discuss the invasive species within landscaping and mitigation areas to be eradicated or controlled and eradication methods, which may include mowing, hand removal, or herbicide application. Removal of invasive plant species on the State of California List of Noxious Weed Species with Pest Rating A shall be required, at the direction of the Project Biologist. Eradication, containment, or control of all invasive plant species on the State of California List of Noxious Weed Species with Pest Rating B shall be at the discretion of the Project Biologist. The program shall also address invasive species identified in the California Exotic Pest Plant Council Exotic Pest Plants of Greatest Ecological Concern in California List and methods for their control. The potential for contribution of funds to such programs as the Arundo Removal Program to assist with removal of giant reed or other species from riparian	Project Biologist	Prior to construction

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
habitats such as San Juan Creek shall also be addressed. The program shall also discuss monitoring of the landscaped and mitigation areas to ensure invasive species are properly controlled or eradicated. The maintenance of the mitigation sites along the corridor will be under the supervision of the Project Biologist (Executive Order 13112, Feb. 3, 1999).		
8.11.30 Measure WV-30. Before and during construction (as appropriate), the Project Biologist shall conduct focused nocturnal and diurnal surveys within suitable habitat between February and May (a minimum of one week prior to the onset of construction) to determine the presence or absence of the western spadefoot toad in the impact area. Any western spadefoot toads found within the impact area will be relocated outside the construction area by the Project Biologist. In areas where western spadefoot toads were found, fencing or screening approximately 1.5 m (five ft) in height (with one m (three ft) buried below the surface) will be installed to prevent western spadefoot toads from entering the area after the onset of construction..	Project Biologist and Contractor	Between February and May, and a minimum of one week prior to the onset of construction
8.11.32 Measure WV-32. During grading activities, two-striped garter snakes observed within and adjacent to the impact area will be relocated outside of the construction area either upstream or downstream of the selected alternative by the Project Biologist.	Project Biologist	During grading activities
8.11.33 Measure WV-33. To minimize and offset adverse effects of the selected alternative on the San Diego cactus wren, suitable habitat for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for this species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of San Diego cactus wrens. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual San Diego cactus wrens to be wounded or killed during the clearing of habitat.	Project Biologist and Contractor	Between September and February in San Diego cactus wren habitat
8.11.34 Measure WV-34. If grubbing activities between February and August (generally within the breeding season for San Diego cactus wren) are unavoidable, the following measures will be implemented: a. Surveys by the Project Biologist will be conducted a minimum of three	Project Biologist and Contractor	During grading activities that occur between February and August

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
times on separate days after the initiation of the nesting season to determine the presence of San Diego cactus wrens, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys. b. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual San Diego cactus wrens on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area. c. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.		
8.11.35 Measure WV-35. a. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied raptor nests and nest burrows (for burrowing owls). Occupied raptor nests/burrows shall be mapped on the construction plans by the Project Biologist. The Project Biologist will visit the nest/burrow site at the beginning of the nesting season to verify the use of the nests/burrows for that particular year. b. If nesting activity begins at any nest site, then the active nest/burrow(s) will be protected as an ESA until nesting activity has ended to ensure compliance with Section 3503.5 of the CDFG Code. To protect any active nest/burrow sites, the following restrictions on construction are required between February and June (or until nests are no longer active as determined by the Project Biologist): (1) clearing limits will be established a minimum of approximately 150 m (500 ft) in any direction from raptor nests/burrows (or as otherwise determined by the Project Biologist); and (2) access and surveying will not be allowed within approximately 300 m (900 ft) of nests/burrows (or as otherwise determined by the Project Biologist).	Project Biologist	Prior to construction, with restrictions on construction between February and June

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.11.36 Measure WV-36. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied breeding coyote, bobcat, or mountain lion dens. In the event that an occupied breeding coyote, bobcat, or mountain lion den is located within the impact area, then grading and construction operations shall be redirected temporarily around the den for a distance of approximately 150 m (500 ft) or as otherwise determined by the Project Biologist. The dens shall be resurveyed by the Project Biologist within the last month of the breeding seasons of these species to verify completion of the breeding cycle. Dens shall be removed during the non-breeding season only.	Project Biologist	Prior to construction and as specified regarding breeding seasons
8.11.37 Measure WV-37. During the spring and summer (May through August) prior to the habitat removal, a qualified bat biologist shall survey all potential roosting habitat proposed for removal by the proposed construction. If a roost is found, the animals will be evicted and the resource sealed or removed so the bats cannot return and would be forced to find alternative roost sites. Tree removal shall be conducted between September and November to avoid hibernating bats (December through February) and maternity season (May through August) if feasible.	Project Biologist	Survey during spring and summer, and tree removal between September and November
8.11.38 Measure WV-38. Impacts to floodplain sage scrub, riparian herb, and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities shall be mitigated at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation shall consist of creating the above mentioned community types in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures. • Site analysis for appropriate soils and hydrology. • Site preparation specifications based on site analysis, including but not limited to grading, and weeding. • Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites.	Project Biologist	Prior to construction, for a minimum of five years and/or until success standards are met

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Specifications for plant and seed material appropriate to the locality of the mitigation site. • Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation. Creation areas shall be considered successful if the following standards are achieved: • The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit. • An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.		
8.11.39 Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every 0.40 ha (one ac) of the applicable resource impacted by the project or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.	TCA and Project Biologist	For a minimum of five years and until success standards are met

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if: • The site does not require substantial maintenance for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and five percent in woodland communities. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. For southern coast live oak riparian forest, the following standards shall apply: • The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period. • The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds. • Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees. • An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit. Monitoring shall be conducted for a minimum of five years to ensure successful		

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.		
8.11.40 Measure WV-40. Impacts to open water shall be mitigated at a 1:1 ratio by the creation of wetlands and/~~or~~ impounded features to be incorporated into the herbaceous riparian habitat ~~restoration to compensate for values and functions~~. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area function properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.	Project Biologist	At the time of habitat restoration and ongoing
8.12 Mitigation Measures Related to Threatened and Endangered Species		
8.12.1 Measure TE-1. Prior to construction, the TCA or other implementing agencies shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.	TCA or other implementing agency/agencies	Prior to construction
8.12.2 Measure TE-2. Mitigation measure TE-2 is the same as mitigation measure WV-2 in Section 8.11. See mitigation measure WV-2.	See mitigation measure WV-2 in Section 8.11	See mitigation measure WV-2 in Section 8.11
8.12.3 Measure TE-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, NMFS, CDFG, USACOE, RWQCB, FHWA and Caltrans for review and approval. The primary goals of the BRMP ~~will be~~are to ensure that (1) the long-term	TCA	Prior to construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones and ~~prevent~~ minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum specific construction monitoring programs for thread-leaved brodiaea, arroyo toad, coastal California gnatcatcher, least Bell's vireo, and Pacific pocket mouse.		
8.12.3 Measure TE-4. Mitigation measure TE-4 is the same as mitigation measure WV-5 in Section 8.11. See mitigation measure WV-5.	See mitigation measure WV-5 in Section 8.11	See mitigation measure WV-5 in Section 8.11
8.12.4 Measure TE-5. Chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the Project Biologist, TCA or other implementing agencies, USFWS, FHWA and Caltrans. In addition, in areas known to support the arroyo toad, a permanent mesh fence shall be installed at the base of the chain-link fence for at least 1.0 km (0.62 mi) to keep the toads from entering onto the roadway surface. The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the	Project Biologist, TCA or other implementing agency/agencies, USFWS, FHWA and Caltrans	During final design and construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.		
8.12.6 Measure TE-6. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance, and seed collection and salvage measures for thread-leaved brodiaea can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted from March through June which is the blooming period for this species. Locations of thread-leaved brodiaea species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.	Project Biologist	During final design and between March and June, prior to construction
8.12.7 Measure TE-7. a. Prior to construction (~~i.e.,~~ e.g., clearing, grubbing or grading), focused surveys for the thread-leaved brodiaea shall be conducted during the flowering period for this species (approximately March through June). The locations of plants identified within the disturbance limits shall be recorded with a Global Positioning System (GPS) unit with sub-meter accuracy. The soils containing thread-leaved brodiaea shall be tested to determine soil texture, and organic matter, and transported to a native plant nursery for germination and propagation. b. Prior to construction, soil containing thread-leaved brodiaea corms within the impact area shall be collected ~~from the specific locations where thread-leaved brodiaea plants were observed the prior spring~~ by personnel experienced in the salvage of corms. Areas of soil 0.6 m by one m by 0.6 m (two ft by three ft by two ft) deep or one m by 1.3 m by 0.6 m (three ft by four ft by two ft) deep shall be collected and transported for placement in an	Project Biologist	Between approximately March and June, prior to construction. Monitoring for five years post-relocation

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
appropriate translocation site selected by the Project Biologist. The translocation site shall be located in a conservation area within an open space dedication area within the region and shall have similar soils, aspect, slope, and hydrology to the donor site (i.e., the site ~~where~~ from which thread-leaved brodiaea ~~will be~~corns were collected). c. Relocation success will be monitored for five years. The number of relocated plants that will emerge in any one year is variable and will depend on seasonal rainfall. Relocation will be considered successful when 10 percent of the relocated population emerges and sets viable seed in any monitoring year. The success criteria may vary as determined by the Project Biologist in consultation with botanists and USFWS staff with recent experience in brodiaea transplantation methodologies in the region.		
8.12.8 Measure TE-8. To avoid impacting vernal marsh FEVM 16 and Riverside fairy shrimp from construction activities, this area shall be flagged and mapped. All construction roads and other construction related activities shall be redirected around this feature. The watershed which supplies this marsh shall also be flagged for avoidance and enclosed with silt fencing per the direction of the Project Biologist to ensure that erosion/ground disturbance does not compromise water quality within the pool. Silt fencing shall remain intact for the duration of construction and until all disturbed soils have been stabilized. Following removal of the silt fencing, fiber rolls, or similar erosion control devices shall be placed around the pool to filter incoming runoff and reduce the potential for siltation or water turbidity until all earth moving activities have ceased and landscaping installed. See also RMP for all mitigation measures.		
8.12.9 Measure TE-9. During final design, the TCA or other implementing agencies, ~~in coordination with~~as described in the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where endangered or threatened fish do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.	The TCA or other implementing agency/agencies	During final design

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.12.10 Measure TE-10. An Arroyo Toad Resource Management Plan (ATRMP) will be prepared. The ATRMP will be incorporated into the BRMP, and action items identified in the plan will be implemented by TCA and monitored by the Project Biologist. The plan shall include measures detailing how the impact area will be surrounded with a silt fence enclosure, ~~from which~~and how arroyo toads will be removed and relocated from the construction impact area during the breeding season (when they are detectable by vocalizations) and placed in suitable habitat either upstream or downstream of the selected alternative during construction. The ATRMP will identify areas of collection, suitable areas for temporary ~~storage~~housing , and restoration guidelines to be in place prior to release of ~~the~~ toads to their original location. The plan shall by submitted to ~~and approved by~~ the USFWS to the extent required by such agency. The locations of areas known to support arroyo toads shall be identified in the ATRMP and on the ESA maps to comply with the requirements of the biological opinion.	Project Biologist, with approval by USFWS	Prior to construction
8.12.11 Measure TE-11. Prior to initiating any ground-disturbing activities in occupied/suitable habitats, or habitats proximal to suitable or occupied habitats for arroyo toad, exclusionary fencing shall be installed around the perimeter of the construction area. Fencing or screening approximately 60 cm (two ft) in height (30 cm [one ft] of which will be buried below the surface) shall be installed to prevent arroyo toads from entering the area after the onset of construction. The fencing will be installed at least 14 days prior to the initiation of work and must be made of a material appropriate to preclude any arroyo toads from entering the construction area. Fencing will be removed each winter during construction and at the end of project construction. Vehicle use will be restricted within areas known to support populations of the arroyo toad ~~as reflected~~that are shown on the ESA maps.	Project Biologist	Prior to initiating any ground-disturbing activities
8.12.12 Measure TE-12. a. The Project Biologist shall conduct three focused arroyo toad surveys within the fenced construction site for arroyo toads a minimum of 14 nights prior to initiating project construction. If climatic conditions are not appropriate for arroyo toad movement during the surveys, the Project Biologist may attempt to illicit a response from the arroyo toads, during	Project Biologist	Fourteen nights prior to initiating project construction and during construction

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
nights with temperatures of 13°C (55°F) or greater, by spraying the project area with water to simulate a rain event. During construction, arroyo toads surveys will be performed a minimum of once per week and on all nights where the combination of rain/humidity and temperature would increase the movement of arroyo toads. b. If arroyo toads are found with the construction side of the exclusionary fencing, arroyo toads will be removed by the Project Biologist and relocated from the construction impact area and placed in suitable habitat either upstream or downstream of the construction area as outlined in the Arroyo Toad Resource Management Plan.		
8.12.13 Measure TE-13. The Contractor shall locate staging areas for construction equipment outside of areas within the jurisdiction of the USACOE or CDFG known to support arroyo toad to minimize impacts to sandy creek benches that may provide aestivating habitat for the arroyo toad to avoid taking any individuals.	Contractor, with oversight by Project Biologist	Prior to and during construction
Measure TE-14. When conducting construction and/or other ground-disturbing activities in arroyo toad-occupied habitats or in adjacent upland areas proximal to known arroyo toad habitats, the Contractor shall cover all grubbing spoils or other grading debris with plastic sheeting to prevent arroyo toads from opportunistically burrowing in these exposed and friable soil piles. This sheeting must be placed on the soil piles before sunset and shall remain on (during nighttime hours) for the duration of the construction/ground disturbing activities. The areas where these measures must be implemented shall be determined by the Project Biologist in coordination with the USFWS. If the sheeting does not remain in place due to unforeseen circumstances, (inclement weather or other disturbances) a biologist will monitor the soil piles for the arroyo toad. Any arroyo toads found within the soil piles will be removed and relocated as outlined in the Arroyo Toad Resource Management Plan	Contractor, with oversight by Project Biologist	When conducting construction and/or other ground-disturbing activities
8.12.15 Measure TE-15. The Contractor shall not drive upon construction roads or other roads/surfaces adjacent to arroyo toad occupied habitat after sunset. If the site must be accessed, a biologist permitted to handle arroyo toad must be present in the vehicle to identify any individuals on the road and the	Contractor and Project Biologist	After sunset during grading and construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
vehicle shall not exceed a speed of 16 km per hour (10 mi per hour) within these areas.		
8.12.16 Measure TE-16. Prior to construction, the Project Biologist shall document the area of pools and gravel bars within the temporary disturbance areas of creeks occupied by the Arroyo Toad. At the conclusion of construction, the TCA or other implementing agencies shall construct artificial pools and gravel bars within these temporary disturbance areas ~~of creeks that are known to be occupied by arroyo toad~~. The artificial pools and gravel bars shall provide potential breeding and aestivating habitat for arroyo toad. These areas will be identified and established by the Project Biologist in the BRMP. The artificial pools and gravel bars shall be equal to or greater in size than those areas impacted by project implementation. Because of the natural flooding and scouring conditions of the creeks within the study area, no maintenance of these areas will be required. The construction of these features shall not preclude required Caltrans bridge maintenance. Plans shall be submitted to USFWS for review and approval, to the extent required by such agency, prior to implementation.	TCA or other implementing agency/agencies and Project Biologist	At the conclusion of construction
8.12.17 Measure TE-17. Prior to the arroyo toads' re-establishment to their original locations, specific activities to enhance their habitat and improve their potential for re-occupation will be implemented. These measures include the removal (up to 15 days in advance of the re-establishment), to the extent practicable, of predatory species such as bullfrogs, western mosquito fish, yellow bullheads, bluegill, and additional predatory invertebrates, amphibians, and introduced fish species. Plans shall be submitted to USFWS for review and approval prior to implementation to determine compliance with the biological opinion.	Project Biologist, with approval by USFWS	Prior to arroyo toad re-establishment
8.12.18 Measure TE-18. To minimize and offset adverse effects of the selected alternative on the coastal California gnatcatcher, habitat suitable for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for these species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of coastal California	Contractor and Project Biologist	From September to February (if feasible), one day prior to any vegetation disturbance and during all suitable habitat clearing and removal activities

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
gnatcatchers. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual coastal California gnatcatchers to be wounded or killed during the clearing of habitat.		
8.12.19 Measure TE-19. If grubbing activities are unavoidable during the coastal California gnatcatcher breeding season, which is between February and August, the following measures will be implemented: Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of coastal California gnatcatchers, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual coastal California gnatcatchers on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.	Project Biologist	Between February and August, if needed
8.12.23 Measure TE-23. During final project design, an undercrossing shall be provided in the vicinity of the San Mateo North population of the Pacific pocket mouse for any alternative selected that occurs within this area. The undercrossing shall allow for potential movement of Pacific pocket mice under the alignment. The exact placement and design of the undercrossing shall be determined by the Project Biologist, in ~~consultation~~ coordination with MCB	Project Biologist, in consultation with MCB Camp Pendleton and USFWS	During final project design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Camp Pendleton and ~~the~~ with USFWS during the Section 7 consultation.		
8.12.24 Measure TE-24. Prior to the initiation of construction in areas within or proximal to known sites occupied by the Pacific pocket mouse, a Pacific Pocket Mouse Resource Management Plan (PPMRMP) shall be prepared and submitted to the USFWS for review ~~and approval~~ to determine compliance with the biological opinion and incorporated into the BRMP. This plan shall identify the strategies available for minimizing impacts ~~and measures to restore impacted suitable habitat~~to comply with the no jeopardy standard of Section 7(a)2 of the Federal Endangered Species Act. The PPMRMP shall identify conservation measures. These conservation measures will be consistent with the Biological opinion issued by the USFWS. Potential conservation measures may include: a. Temporary construction measures—including temporary fencing: • Invasive species control • Habitat management and enhancement • Predator control • Control of public access • PPM population monitoring Implementation of these conservation measures will be completed in conjunction with USFWS and the landowner, Marine Corp, Camp Pendleton. b. Project Design Features—PPM • Barriers along the boundary • Minimization of roadway lighting	Project Biologist with approval by USFWS	Prior to initiation of construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
• Minimization of fire risk		
8.12.25 Measure TE-25. Mitigation measure TE-25 is the same as mitigation measure WV-11 in Section 8.11. See mitigation measure WV-11.	See mitigation measure WV-11 in Section 8.11.	See mitigation measure WV-11 in Section 8.11.
8.12.26 Measure TE-26. Mitigation measure TE-26 is the same as mitigation measure WV-12 in Section 8.11. See mitigation measure WV-11.	See mitigation measure WV-12 in Section 8.11.	See mitigation measure WV-12 in Section 8.11.
8.12.27 Measure TE-27. Mitigation measure TE-27 is the same as mitigation measure WV-38 in Section 8.11. See mitigation measure WV-38.	See mitigation measure WV-38 in Section 8.11.	See mitigation measure WV-38 in Section 8.11.
8.12.28 Measure TE-28. Mitigation measure TE-28 is the same as mitigation measure WV-39 in Section 8.11. See mitigation measure WV-39.	See mitigation measure WV-39 in Section 8.11	See mitigation measure WV-39 in Section 8.11
8.12.29 Measure TE-29. Mitigation measure TE-29 is the same as mitigation measure WV-40 in Section 8.11. See mitigation measure WV-40.	See mitigation measure WV-40 in Section 8.11	See mitigation measure WV-40 in Section 8.11
8.13 Mitigation Measures Related to Wild and Scenic Rivers		
8.13.1 No mitigation required.	N/A	N/A
8.14 Mitigation Measures Related to Costal Barriers		
8.14.1 No mitigation required	N/A	N/A
8.15 Mitigation Measures Related to Costal Zone		
8.15.1 Mitigation measures for impacts in the Coastal Zone are found in the following topical areas for which coastal zone permitting is concerned: biological, cultural, paleontological and visual resources. Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States), 8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources) for a description of these measures.	Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States), 8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic	Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States), 8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
	and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources)	Resources)
8.16 Mitigation Measures Related to Historic and Archeological Resources		
8.16.1 Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA or other implementing agency/agencies to perform subsurface test level investigation and surface collection ~~on sites potentially eligible for~~ for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.	TCA or other implementing agency/agencies and qualified archaeologist	Prior to the commencement of project grading
8.16.2 Measure AR-2. In conjunction with the final design, the TCA or other implementing agency/agencies shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP ~~conduct data recovery of the archaeological resources in the construction area~~. A final report of the data	TCA or other implementing agency/agencies	In conjunction with the final design and prior to commencement of project grading

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
recovery operation shall be submitted to the TCA, Caltrans and FHWA prior to any grading in the archaeological site areas. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.		
8.16.3 Measure AR-3. Prior to the start of construction activity, the TCA or other implementing agency/agencies shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pregrading conference to explain the established procedures based on a preapproved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during ground disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.	TCA or other implementing agency/agencies and qualified archaeologist	Prior to initiation of grading and ongoing during grading activities
8.16.4 Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the	TCA	At the time of final design

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
selected alternative.		
8.17 Mitigation Measures Related to Hazardous Materials and Hazardous Waste Sites		
8.17.1 Measure HM-1: Testing For Contaminated Groundwater. Groundwater testing for the presence of pesticides, nitrates, metals and petroleum hydrocarbons will be required by the Regional Water Quality Control Board (RWQCB) prior to construction in all areas where excavation may extend into groundwater based on final design criteria. All wastewater generated during construction will meet all applicable requirements of the RWQCB prior to disposal.	TCA or other implementing agency/agencies, in accordance with RWQCB requirements	Prior to construction in areas where excavation may extend into groundwater
8.17.2 Measure HM-2: Aerially Deposited Lead. In areas immediately adjacent to existing roads proposed for construction (I-5, arterials), soil samples will be collected and analyzed for lead concentrations during final design, consistent with "Lead Testing Recommendations for Districts with Aerially Deposited Lead (ADL) Variance" (Caltrans 2001), "Invoking the Aerially Deposited Lead Variance" (Caltrans, no date), DTSC "Variance 00-H-VAR-07," and Standard Special Provision SSP 19-900, S5-740. If lead-affected soil is found, the results/conclusions will be included in the Site Investigation Report, the Standard Special Provisions (SSP) and the Material Information Handout (MIH). The SSP and MIH will be incorporated in design specifications and will include measures to safeguard public health before and during construction. Depending on the concentrations and volumes encountered, excavation and disposal of lead-impacted soil may be required. If such excavation is indicated, procedures for handling and disposal will be included in the design specifications. Soil contaminated with ADL will be removed and disposed of, in concurrence with the variance issued to the California Department of Transportation (Caltrans) by the California Department of Toxic Substances Control (DTSC). This material may be reused for embankment fill, retaining wall backfill and/or capped with an appropriate amount of clean fill material. Specifically, DTSC granted Caltrans a variance in 2000 to allow for the use of some lead contaminated soils for fill and backfill during construction of freeway improvements, provided that Caltrans' handling and use of those soils are consistent with the conditions, limitation and	TCA or other implementing agency/agencies	During final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
requirements described in that variance. A copy of that variance is available for review at the Caltrans District 12 office. This variance is valid through September 22, 2005 per Caltrans and will need to be renewed. It is anticipated that all of the lead contaminated soil in the SOCTIIP study area affected by the Alternatives would be used during the construction of the proposed project. Although there is not expected to be the need to remove and dispose of any lead contaminated soil off site during construction, any excess contaminated soil would be disposed of consistent with all applicable federal, state and local regulations		
8.17.3 Measure HM-3: Agricultural Lands. Prior to grading in agricultural areas, a soil sampling plan and a worker health and safety plan will be prepared and implemented to identify areas of chemically affected soils to minimize the risk of exposure to worker safety during construction. The soil sampling plan will include appropriate sampling criteria for screening excavated soils by profiling for reuse or disposal, as appropriate. Surface soil samples within the disturbance limits will be collected and analyzed for pesticide and herbicide residues. If elevated residue levels are detected, a Risk Management Plan (RMP) for the impacted soil will be developed and implemented during construction.	TCA or other implementing agency/agencies and Contractor	Prior to grading in agricultural areas and ongoing during project
8.17.4 Measure HM-4: Abandoned Oils Wells or Test Borings. The abandoned oil wells and test borings will be positively located and any remaining components (such as steel surface casings) will be removed before grading for the SOCTIIP build Alternatives. In the event that an undocumented oil well or test boring is encountered during construction of any SOCTIIP Alternative, reabandonment of the well or boring will be implemented to comply with applicable California Department of Oil and Gas (CDOG) requirements.	Geotechnical engineer and/or geologist	Prior to project grading
8.17.5 Measure HM-5: Asbestos Containing Building Materials. Consistent with the requirements of the South Coast Air Quality Management District (SCAQMD), asbestos sampling and notification will be implemented prior to any demolition or renovation of existing bridges, road structures or buildings. All asbestos contain building waste materials will be properly handled and disposed of consistent with all applicable federal, state and local regulations.	TCA or other implementing agency/agencies and Contractor	Prior to demolition or renovation of existing bridges, road structures or buildings

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Formal notification to SCAQMD will be made at least 10 days before any demolition work, regardless of whether or not asbestos is known to be present.		
8.17.6 Measure HM-6: Hazardous Materials in Highway Infrastructure. If any existing thermoplastic or painted traffic stripes on existing roads are proposed for removal, testing of those stripes will be performed prior to construction to assess the level of lead and chromium. The testing will identify specific actions that will be implemented to safely remove and dispose of these stripes. It is also possible that some components of bridges or other highway infrastructure may include asbestos-containing materials (ACMs). Building materials in all structures slated for demolition will be surveyed for asbestos content before demolition begins and any materials found to be ACMS will be removed (abated) before demolition, as described in measure HM-5.	TCA or other implementing agency/agencies and Contractor	Prior to construction
8.17.7 Measure HM-7: Construction Related Hazardous Materials. All construction activities will be required to comply with existing federal, state and local regulations regarding the handling, use, storage and disposal of hazardous materials, including specific regulations on response in the event of accidental release.	TCA or other implementing agency/agencies and Contractor	Ongoing during construction
8.17.8 Measure HM-8: Hazardous Materials Associated with Existing Utilities. If leakage or damage from existing utilities is identified during construction, appropriate containment and remedial measures will be implemented, as necessary, in consultation with the affected utility provider and in compliance with existing local, state and federal regulations.	TCA or other implementing agency/agencies and Contractor and affected utility	Ongoing during construction
8.17.9 Measure HM-9: Alignment Specific Database Review. During final design for the selected Alternative, an updated regulatory database report will be obtained and regulatory records for identified sites of concern, such as leaking underground storage tank locations, will be reviewed. The intent of obtaining and reviewing this updated information will be to evaluate changes in, or the progress of, ongoing monitoring and remediation activities at those properties within or immediately adjacent to the disturbance limits for the selected Alternative. The results of this additional database and records review will be used in developing the final construction plans and schedules.	TCA or other implementing agency/agencies and Contractor	During final design
8.17.12 Measure HM-12: Hazardous Materials Sites. During final design, existing businesses within the disturbance limits for the selected Alternative	TCA or other implementing	During final design and prior to, or during, construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
will be evaluated related to hazardous materials concerns to identify areas where soil sampling is warranted. Based on this reevaluation, subsurface sampling may be conducted to evaluate the presence of previous chemical releases associated with these types of land uses. Identified contamination will be remediated prior to or during construction of the selected Alternative. The right-of-way acquisition process will specifically address the need for hazardous materials remediation. Remediation, consistent with regulatory requirements and standards, will fully mitigate adverse impacts associated with existing hazardous materials or wastes sites on property acquired for the selected Alternative.	agency/agencies and Contractor	
8.17.13 Measure HM-13: Camp Pendleton. If the selected Alternative crosses Camp Pendleton, the Department of the Navy (DON) will be consulted and a review of current United States Environmental Protection Agency (EPA) files will be conducted during final design to evaluate whether National Priorities List (NPL) records indicate that hazardous materials releases have occurred beneath the northwestern part of the Base, which may impact the SOCTIIP build Alternative. Current regulatory records pertaining to the integrity of the USTs and associated piping at the Base gas station will be reviewed. In the event that the regulatory files lack records of monitoring or UST integrity test results, subsurface sampling activities will be conducted, including confirmation soil sampling conducted within the disturbance limits of the build Alternative. Evaluation of potentially impacted or environmentally impaired properties will be performed prior to acquisition in order to determine the degree of environmental risk and liability for both the buyer and seller.	TCA or other implementing agency/agencies and Contractor, in consultation with DON	During final design and prior to acquisition
8.17.14 Measure HM-14: Camp Pendleton. In the event that an Alternative that traverses a part of Camp Pendleton is ultimately selected for construction, the right-of-way easement granted by the DON to the TCA or other implementing agency (for a non-corridor Alternative) shall contain the following provisions: 1) procedures for control and manifesting of hazardous waste generated by construction or maintenance activities; 2) Assignment of responsibility for hazardous waste management, spill accountability, and hazardous waste disposal (including manifesting); 3) The EPA identification (ID) number to be used to manifest hazardous wastes; 4) Responsibility for	DON	Prior to acceptance of right-of-way easement

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
acquisition of any required health permits; 5) Procedures for management of HW stored on Camp Pendleton property; 6) Assignment of responsibility for any Notices of Violation or other regulatory enforcement actions occurring within the Alternative right-of-way during construction or operation of the SOCTIIP project.		
8.17.15 Measure HM-15: TRW Capistrano Test Site. If the selected Alternative traverses the Capistrano Test site, the groundwater well shall be sampled and abandoned in a cooperative effort with TRW in accordance with applicable regulatory guidelines.	TCA or other implementing agency/agencies and Contractor	Prior to site acquisition
8.17.16 Measure HM-16: Petroleum Pipeline. If records of pipeline integrity testing are unavailable, a soil screening program, including the collection and analysis of soil samples beneath the pipeline, will be implemented in a cooperative effort with Kinder Morgan, the pipeline operator. The soil sampling will be conducted to evaluate the presence of chemically affected soil. If contaminated soil is documented associated with this pipeline, appropriate remediation in compliance with existing local, state and federal regulations will be implemented, in conjunction with Kinder Morgan.	TCA or other implementing agency/agencies and Contractor, in conjunction with Kinder Morgan	Prior to construction
8.17.17 Measure HM-17: Electrical Substations. If the final design for a build Alternative calls for the relocation of oil cooled and/or lubricated electrical equipment at existing electrical substations, the TCA will coordinate with the owner of the substation during final design to determine whether an evaluation of soils beneath the relocated equipment is necessary and appropriate. The TCA would also coordinate with the owner of the substation regarding the remediation of any contaminated soil associated with the affected electrical equipment, consistent with applicable local, state and federal regulations.	TCA and affected utility provider	During final design
8.17.18 Measure HM-18: Previously Unknown Hazardous Materials Encountered During Construction. If previously unknown hazardous materials or objects that could contain hazardous materials (such as an undocumented underground storage tank) are discovered during construction, construction personnel will notify TCA or the implementing agency immediately and implement measures to control and characterize the materials encountered, including notification of hazardous materials emergency response personnel as appropriate. Characterization of the possible hazardous materials will be	Construction personnel and construction contractor	During construction

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
similar to the provisions of HM-12. The construction contractor will provide for this contingency in the Health and Safety Plan for the project.		
8.17.19 NES Measure 12 for Construction Storage. During all construction activities, the contractor shall ensure that construction equipment or vehicles shall not be stored within areas defined as Environmentally Sensitive Areas (ESAs), including areas within the jurisdiction of the ACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 m (150 ft) of CDFG or ACOE jurisdictional areas.	Contractor	Ongoing during construction
8.17.20 NES Measure 13 for Construction Disposal. NES measure 13 is the same as mitigation measure WW-8 in Section 8.10.	See mitigation measure WW-8 in Section 8.10	See mitigation measure WW-8 in Section 8.10
8.18 Mitigation Measures Related to Visual Resources		
8.18.1 Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces. The TCA or the implementing agency/agencies shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines	TCA or other implementing agency/agencies	During final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.		
8.18.2 Measure AS-2. The TCA or the implementing agency/agencies shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.	TCA or other implementing agency/agencies	During final design
8.18.3 Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA or implementing agency or agencies along the corridor or I 5, if one of these build Alternatives is selected. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit. Lighting per County of Orange or local jurisdiction standards shall be installed along the arterials under the AIO Alternative by the implementing agency/agencies.	TCA or other implementing agency/agencies	Final design and during construction
8.18.4 Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto	TCA or other implementing agency/agencies	Final design and during construction

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
areas outside of the corridor right-of-way~~, particularly open space areas and the Donna O'Neill Land Conservancy~~. The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment of a build Alternative through The Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative. In conjunction with operation of the AIO and I-5 Alternatives, light shall be applied as effectively as possible by the implementing agency/agencies, minimizing both the glare of any light source and the spillover of light onto areas outside of the road rights of way.		
8.19 Mitigation Measures Related to Energy		
8.19.1 No mitigation required	N/A	N/A
8.20 Mitigation Measures Related to Earth Resources		
8.20.1 Measure G-1. Prior to final design for the selected Alternative, a design level geotechnical report will be prepared for the selected Alternative. This report will document potential soil-related constraints and hazards such as slope instability, settlement, liquefaction or related secondary seismic impacts that may be present. Acceptance of the report will be subject to approval by the TCA and other agencies that may have jurisdiction. A minimum factor of safety of 1.5 shall be used to determine the final slope configuration. The report shall also include: • Evaluation of potentially expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the development of the corridor. The design level geotechnical studies will identify potentially liquefiable areas and provide recommendations for mitigation. Any areas that require mitigation would be within the disturbed areas, and no additional impacts would result.	TCA or other implementing agency/agencies	Prior to final design
8.20.2 Measure G-2. In conjunction with final design, it will be demonstrated that side slopes shall be designed and graded so that the potential for surface erosion of the engineered fill is not increased from natural conditions.	TCA or other implementing agency/agencies	At the time of final design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.20.3 Measure G-3. In conjunction with construction activity, native vegetation with good soil-binding characteristics and low water requirements will be planted on engineered slopes to reduce erosion and slope instability.	TCA or other implementing agency/agencies	During construction
8.20.4 Measure G-4. A quality assurance/quality control plan will be maintained during construction. This will include observing, monitoring and testing by a geotechnical engineer and/or geologist during construction to confirm that geotechnical/geologic recommendations are fulfilled, or if different site conditions are encountered, appropriate changes are made to accommodate such issues.	Contractor and geotechnical engineer and/or geologist	During construction
8.20.4 Measure G-5. Once a final project alignment has been selected, a detailed review will be made to locate all groundwater wells within the project footprint. Any groundwater wells that occur within the project footprint will be abandoned properly during project construction. As may be required, (i.e., for active wells), the water supply provided by the well will be replaced. Replacement water may be provided by a variety of means, such as installing a new well or a connection to municipal supply.	TCA or other implementing agency/agencies and Contractor	At the time of final design
8.21 Mitigation Measures Related to Military Uses		
8.21.1 Measure M-1: Nighttime Lighting and Shielding. During construction of the SOCTIIP build Alternatives on or in the immediate vicinity of Camp Pendleton, to minimize conflicts with night training by Base personnel, the following will be implemented: • Construction lighting requirements during evening and night activities will be adjusted with proper shielding to focus illumination downwards in designated work areas. To accomplish this, lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to reduce the impact on night vision goggle training activities. • Fixed lighting will not exceed the minimum needed to meet Caltrans standards. Lighting will be shrouded to reduce backscatter and vertical light pollution and will be of a type to minimize effects on adaptation to darkness and changes in light levels. • A design review memoranda will be produced by the Contractor indicating	TCA, Contractor and Camp Pendleton personnel	During construction on or in the immediate vicinity of Camp Pendleton

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
that lighting design and materials used to minimize light and glare during construction are consistent with the requirements of this mitigation measure. Cranes which would remain extended to a height of 12.2 meters (40 feet) above ground level (AGL) or higher during night-time hours must include the use of a Federal Aviation Administration (FAA) approved aircraft obstruction light mounted at the highest point of the equipment's extension AGL. The aircraft obstruction light must be operational from 30 minutes before sunset until 30 minutes after sunrise each day the equipment is in place and extended above 12.2 meters (40 feet) AGL overnight.		
8.21.2 Measure M-2: Access and Coordination. Construction activities and equipment movement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.	TCA, Contractor and Camp Pendleton personnel	During construction on or in the immediate vicinity of Camp Pendleton
8.21.3 Measure M-3: Base Security During Construction. For any corridor alignment which traverses or is in the immediate vicinity of Camp Pendleton, prior to final design, security measures shall be incorporated into the project construction specifications to ensure that construction workers and others cannot access the Base from the construction areas. These security measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented prior to any project related construction and shall be adequately maintained throughout the construction period.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and throughout construction
8.21.4 Measure M-4: Nighttime Lighting and Shielding. During operation of a SOCTIIP build Alternative on or immediately adjacent to Camp Pendleton, to minimize conflicts with night training by Base personnel, permanent night	TCA, Contractor and Camp Pendleton personnel	During project operation

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
lighting will be adjusted with proper shielding to focus illumination downwards. Lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties including the Base. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to further minimize potential glare effects on the Base. This design will be implemented at all places on and adjacent to the Base requiring lighting along the road including interchanges and the mainline. To reduce the impact on night vision goggle training activities, fixed lighting on and immediately adjacent to the Base will not exceed the minimum needed to meet Caltrans standards. Lighting on and immediately adjacent to the Base will be shrouded to reduce backscatter and vertical light pollution and should be of a type to minimize effects on adaptation to darkness and changes in light levels. A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during operation on and immediately adjacent to the Base are consistent with the requirements of this mitigation measure.		
8.21.5 Measure M-5: Land Use Fragmentation/Ground Training. To reduce impacts associated with the fragmentation of land available on Camp Pendleton and to avoid creating a parcel on the Base fully fragmented and inaccessible from the rest of the Base, two underpasses will be constructed to provide clearance for military personnel and equipment movement. The underpasses will be sized and designed to accommodate the equipment and personnel needs as may be defined by the Marine Corps and the DON.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and during construction
8.21.6 Measure M-6: Base Security. For any corridor alignment which traverses or is immediately adjacent to Camp Pendleton, prior to final design, security measures shall be incorporated into the project design to ensure that users of the corridor cannot access the Base. These measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented and fully operable prior to public access to the corridor.	TCA, Contractor and Camp Pendleton personnel	Prior to final design and prior to public access to corridor
8.22 Mitigation Measures Related to Mineral Resources		

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
The mitigation measure concerning impacts to the mineral resources is SE-2. Refer to Section 8.4 (Socioeconomics and Environmental Justice) for a description of this measure.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
8.23 Mitigation Measures Related to Paleontological Resources		
8.23.1 Measure P-1: Pre-Construction Salvage. Prior to the start of any earthmoving activity, an Orange County Certified (OCC) Paleontologist will be retained to conduct pregrading salvage of any significant exposed fossils identified by the OCC Paleontologist prior to any heavy equipment activity in a particular area. Paleontological monitoring of brush removal shall be performed by a qualified paleontologist, under the supervision of an OCC Paleontologist, to locate and salvage additional significant fossil remains not previously visible. The OCC Paleontologist shall prepare a paleontological technical report that includes methodology, results, and an inventory list of significant fossils recovered.	OCC Paleontologist	Prior to the initiation of grading
8.23.2 Measure P-2: Monitoring Procedures. Prior to the start of any earthmoving activity, an OCC Paleontologist shall be retained to establish procedures, following these mitigation guidelines set forth in this Paleontological Resources Technical Report, for paleontological resource monitoring by qualified paleontological monitors during grading, and procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of the fossils as appropriate. The OCC Paleontologist shall also establish emergency procedures applicable to the discovery of unanticipated significant paleontological resources (e.g. large specimens or significant concentrations of specimens as determined by the OCC Paleontologist). The OCC Paleontologist shall be present at the pregrading conference to explain the established procedures to the construction contractors.	OCC Paleontologist	Prior to the initiation of grading
8.23.3 Measure P-3: Construction Monitoring. During all construction activities which involve soil disturbance, the following activities will be conducted: a. An OCC Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock	OCC Paleontologist	During grading and all construction activities that involve soil disturbance, and at the conclusion of project grading

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
units and microscopic examination of matrix to determine if fossils are present. The monitor will have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens. b. If microfossils are present, the monitor will collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery assistance to move large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles will consist of screen washing small samples (approximately 90 kilograms, or 200 pounds) to determine if significant fossils are present. Productive tests will result in screen washing of additional matrix from the stockpiles to a maximum of 2,700 kg (6,000 lbs) per locality to ensure recovery of a scientifically significant sample. c. Younger Quaternary Alluvium, San Onofre Breccia and Quaternary Landslide Deposits have a low or indeterminate paleontological sensitivity level, and will be spot-checked in a periodic basis to insure that older underlying sediments are not being penetrated and fossils are not being exposed. All earth-moving in the Williams Formation, Silverado Formation, Santiago Formation, Sespe Formation, Vaqueros Formation, Sespe/Vaqueros Undifferentiated, Topanga Formation, Monterey Formation, Capistrano Formation, Niguel Formation, Older Quaternary Alluvium and Quaternary Marine and Non-Marine Terrace Deposits will be monitored full-time. The moderate to high paleontological sensitivity of these formations requires a maximum effort to recover fossils. d. The Orange County Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agencies. e. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository such as a County of Orange facility, which shall have the first right-of-refusal of the collection, or the Natural History Museum of Los Angeles County or San Diego Natural History Museum. f. At each fossil locality, field data forms will record the locality, stratigraphic columns will be measured and appropriate scientific samples submitted for analysis.		

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
The Orange County Certified Paleontologist will prepare a final mitigation report to be filed with the client, the lead agencies, and the repository.		
8.24 Mitigation Measures Related to Public Services and Utilities		
8.24.1 Mitigation Measures for Public Services		
Measure PS-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Public Services and Utilities Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary use during construction and the permanent acquisition of land currently occupied by public services and utilities. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of public services and utilities property will apply to the build Alternatives	TCA or other implementing agency/agencies	During final design
8.24.1.2 Measure PS-2: Fire Protection. During construction, in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, the contractor will be required to install signs around construction sites warning of high fire risk and of area closings during the high fire season as declared by OCFA or the MCB Camp Pendleton Fire Department	Contractor	During construction in areas subject to wildland fires
8.24.1.3 Measure PS-3: Fire Protection. During operation of a build Alternative, Caltrans (for the corridor, Ortega Highway and I-5) and/or the local jurisdiction (for local arterials), as appropriate, will install signs along the new or improved road segments in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, warning of high fire risk and of area closings during the high fire season declared by OCFA and the MCB Camp Pendleton Fire Department.	Caltrans and/or local jurisdiction	Ongoing during operation of the project
8.24.1.4 Measure PS-4: Fire Protection. Emergency call boxes will be installed along the road in undeveloped areas of high and extreme fire hazard, consistent with existing OCFA, Orange County Transportation Authority, Caltrans, TCA and/or local jurisdiction, as appropriate, policies on emergency call boxes.	Caltrans and/or local jurisdiction	Ongoing during operation of the project

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
8.24.1.5 Measure PS-5: Fire Protection. During construction of a build Alternative, the contractor will be required to maintain access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton.	Contractor	During construction
8.24.1.6 Measure PS-6: Fire Protection. During final design for a build Alternative, the long term preservation/provision of access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, will be incorporated in the facility design, in consultation with the OCFA and the MCB Camp Pendleton Fire Department.	TCA or other implementing agency/agencies	During final design
8.24.1.7 Measure PS-7: Fire Protection. During construction of a build Alternative, the contractor will implement fuel modification techniques as required by the OCFA, and the MCB Camp Pendleton Fire Department in areas on MCB Camp Pendleton, in areas of fire hazard as determined by the OCFA and the MCB Camp Pendleton Fire Department.	Contractor	During construction
8.24.1.8 Measure PS-8: Fire, Emergency Medical and Law Enforcement. During final design, the TCA, Caltrans and/or the City of San Clemente, as appropriate, will coordinate the addition of OPTICON or other traffic pre-emption devices as used in the City of San Clemente with the City's traffic engineer. These devices will be provided at impacted intersections, as identified in the Traffic Technical Report, to reduce impacts to fire, medical emergency and law enforcement response times.	TCA, Caltrans and/or the City of San Clemente	During final design
8.24.1.9 Measure PS-9: Fire, Emergency Medical and Law Enforcement. During construction the TCA or the implementing agency/agencies will require the contractor to coordinate all temporary ramp closures and detour plans with fire, emergency medical and law enforcement providers to minimize temporary delays in response times.	Contractor	During construction
8.24.1.10 Measure PS-10: Law Enforcement. Prior to operation of any build Alternative which crosses MCB Camp Pendleton, the State of California shall solicit a transfer of concurrent legal (law enforcement) jurisdiction from the federal government to the State for any part of an Alternative that crosses MCB Camp Pendleton as provided in Section 2851 of the Fiscal Year 1999 National Defense Authorization Act (H.R. 3616).	State of California	Prior to operation
8.24.1.13 Measure PS-13: Solid Waste. Prior to construction of a build	Contractor	Prior to construction

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Alternative which will generate excess fill, the contractor will be required to offer fill for use in other development projects or to area landfills as daily cover. Landfilling of excess soil and rock material will be considered the option of last resort.		
8.24.1.13aPS-13A: Solid Waste. Excess fill material from construction will not be disposed of at MCB Camp Pendleton landfills, unless such disposal is approved in advance though mutual agreement with the Environmental Security Department's Solid Waste Branch. If Base agreement for such disposal is granted, the contractor shall be responsible for hauling the materials to the Base landfill(s) and for complying with all Base regulations regarding the transport and disposal of that material on the Base.	Contractor	During construction
Measure PS-14: Direct Permanent Impacts on Schools. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with the school districts or private schools whose facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.	TCA or other implementing agency/agencies	Prior to construction
8.24.1.14 Measure PS-15: Direct Temporary Impacts on Schools. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with the school districts whose facilities will be temporarily removed during construction to determine appropriate action and or compensation to mitigate for the temporary use.	TCA or other implementing agency/agencies	Prior to construction
8.24.1.15 Measure PS-16: Public Facilities. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with owners of public facilities that will be removed, partially removed or will experience loss of parking facilities, to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition.	TCA or other implementing agency/agencies	Prior to construction
8.24.2 Mitigation Measures for Public Utilities		
8.24.2.1Measure U-1: Utilities. As early as possible during final design, the TCA or other implementing agency/agencies, will consult with each utility provider/owner to avoid or reduce potential impacts on existing and planned	TCA or other implementing agency/agencies	During final design

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
utilities through design refinements. Should impacts be unavoidable, all affected facilities shall be relocated or protected in place prior to, during or after construction, as appropriate, and in accordance with the methods and designs approved by the affected utility provider/owner. For utilities located on MCB Camp Pendleton, as early as possible the TCA or other implementing agency/agencies will consult with and receive approval from the Marine Corps on any utility relocations or realignments prior to discussing the proposed activities with utility providers.		
8.24.2.2Measure U-2: Temporary Use and Permanent Acquisition. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with utility providers whose facilities will be temporary used and/or permanently acquired to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition of their property.	TCA or other implementing agency/agencies	Prior to construction
8.24.2.3 Measure U-3: MCB Camp Pendleton Percolation Ponds. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 appropriate action and compensation to reduce the effect of the encroachment on MCB Camp Pendleton will be negotiated with the Department of the Navy.	TCA or other implementing agency/agencies	Prior to construction
8.25 Mitigation Measures Related to Recreation Resources		
Mitigation measures concerning impacts to recreation are R-1 to R-5. Refer to Section 8.5 (Mitigation Measures Related to Pedestrian and Bicycle Facilities) for a description of these measures.	See Measures WQ-1 to WQ-4 from Section 8.9	See Measures WQ-1 to WQ-4 from Section 8.9
Project Design Features:		
All the build Alternatives include several project design features (PDFs) intended to reduce and minimize the potential environmental impacts of the SOCTIIP build Alternatives on the human and natural environments. These PDFs include bridges for wildlife crossings, runoff management features, retaining and sound walls, landscaping, and lighting. Although the PDFs are not mitigation measures, they are included in the MMRP in order to ensure and track their implementation. The PDFs for the corridor Alternatives are described below.		
PDF 2-1: Retaining Walls for the Corridor Alternatives. Retaining walls will be provided in some locations along the alignments of the corridor Alternatives. Retaining walls can be used to minimize or reduce the amount of grading in areas with substantial topography, or to minimize or reduce right-of-way takes	TCA	During Final Design

Table 7.26-2~~1~~ (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
in developed areas. The specific locations of retaining walls will be refined in final design if a corridor Alternative is selected for implementation.		
PDF 6-1: Sound Walls for the Corridor Alternatives. Sound walls to reduce noise impacts on adjacent sensitive land uses under the corridor Alternatives will be provided consistent with FHWA, Caltrans, and local noise standards. The locations of the noise walls included in the corridor Alternatives are shown on detailed maps in Appendix K. Some of these noise walls will be outside the disturbance limits and rights-of-way for the corridor Alternatives. Those noise walls would be adjacent to existing sensitive land uses to maximize the noise reduction benefits of these walls for the adjacent sensitive uses. Those walls would be constructed on the affected property, with the permission of the property owner, and would become the property of that property owner. The disturbance limits for these walls would be limited to the area directly adjacent to the walls. The construction access to these wall locations would be from the property owner's access (driveway) from the nearest public road and not from the disturbance limits for the build Alternatives. The noise walls for the SOCTIIP build Alternatives, including walls outside the disturbance limits, are shown on the detailed maps in Appendix K.	TCA and Caltrans	During Final Design
PDF 9-1: Reduction of Downstream Effects Caused By Changes in Flow. If changes in velocity or volume of runoff, the sediment load or other hydraulic changes due to encroachment, crossings, or realignment result in an increased potential for downstream effects in channels, design features to prevent adverse effects are included in the alternatives. These will include one or more of the following (or similar features): • Modifications to channel lining materials (both natural and man-made), including vegetation, geotextile mats, rock, and riprap. • Energy dissipation devices at culvert outlets. • Smoothing the transition between culvert outlets/headwalls/wingwalls and channels to reduce turbulence and scour. • Incorporating retention or detention facilities into designs to reduce peak discharges, volumes, and erosive flow.	TCA	During Final Design
PDF 9-2: Concentrated Flow Conveyance Systems. Concentrated flow conveyance systems will be implemented to intercept and divert surface flows	TCA	During Final Design

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
and convey and discharge concentrated flows with a minimum of soil erosion, both on-site and off-site where applicable. Ditches, berms, dikes, and swales will be used to intercept and direct surface runoff to an overside drain or stabilized watercourse.		
PDF 9-3: Slope and Surface Protection Systems. Surface protection will be used to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.	TCA	During Final Design
PDF 9-4. Detention Basins. EDBs will be incorporated into the alternatives to temporarily detain water and allow sediment and particulates to settle out. The EDBs will be maintained, monitored, and documented per Regional Water Quality Control Board (RWQCB) and Caltrans requirements and will conform to the guidelines set forth in the Storm Water Management Plan (SWMP).	TCA	During Final Design
PDF 9-5. Biofiltration Swales and Strips (Vegetated Treatment Strips). Biofiltration swales and strips will be used as shown in the Runoff Management Plan (RMP, Psomas 2003) where applicable and in association with EDBs to convey low flow. Bioswales will be maintained, monitored, and documented per RWQCB and Caltrans requirements and will conform to guidelines set forth in the SWMP.	TCA	During Final Design
PDF 9-6. Infiltration Basins. Infiltration basins will be implemented to the extent feasible to detain runoff and infiltrate it into the soil to prevent contaminants from impairing the beneficial uses of receiving waters. Infiltration basins will be maintained, monitored, and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP.	TCA	During Final Design
PDF 9-7: Runoff Management PDFs for the Corridor Alternatives. The build Alternatives include Best Management Practices (BMPs) to control the flow of roadway runoff and treat, to the maximum extent practicable (MEP), roadway runoff before it leaves the project site and enters existing water courses or storm drain facilities. PDFs for the SOCTIIP build Alternatives include BMPs such as extended detention basins (EDBs) and grassy swales. The disturbance and right-of-way limits for the build Alternatives, shown on the detailed maps in Appendix A, include areas for EDBs and other BMPs.	TCA	During Final Design

Table 7.26-21 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
and convey and discharge concentrated flows with a minimum of soil erosion, both on-site and off-site where applicable. Ditches, berms, dikes, and swales will be used to intercept and direct surface runoff to an overside drain or stabilized watercourse.		
PDF 9-3: Slope and Surface Protection Systems. Surface protection will be used to minimize erosion from completed, disturbed surfaces. Surface protection includes but is not limited to vegetative cover or hard surfacing such as concrete, rock, or rock and mortar.	TCA	During Final Design
PDF 9-4. Detention Basins. EDBs will be incorporated into the alternatives to temporarily detain water and allow sediment and particulates to settle out. The EDBs will be maintained, monitored, and documented per Regional Water Quality Control Board (RWQCB) and Caltrans requirements and will conform to the guidelines set forth in the Storm Water Management Plan (SWMP).	TCA	During Final Design
PDF 9-5. Biofiltration Swales and Strips (Vegetated Treatment Strips). Biofiltration swales and strips will be used as shown in the Runoff Management Plan (RMP, Psomas 2003) where applicable and in association with EDBs to convey low flow. Bioswales will be maintained, monitored, and documented per RWQCB and Caltrans requirements and will conform to guidelines set forth in the SWMP.	TCA	During Final Design
PDF 9-6. Infiltration Basins. Infiltration basins will be implemented to the extent feasible to detain runoff and infiltrate it into the soil to prevent contaminants from impairing the beneficial uses of receiving waters. Infiltration basins will be maintained, monitored, and documented per RWQCB and Caltrans requirements and conform to the guidelines set forth in the SWMP. ~~These runoff management PDFs and other measures to reduce adverse impacts of the alternatives related to water quality are described in greater detail in Section 4.9 (Affected Environment, Impacts and Mitigation Measures Related to Water Quality) and in the RMP.~~	TCA	During Final Design
PDF 9-7: Runoff Management PDFs for the Corridor Alternatives. The build Alternatives include Best Management Practices (BMPs) to control the flow of roadway runoff and treat, to the maximum extent practicable (MEP), roadway	TCA	During Final Design

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
runoff before it leaves the project site and enters existing water courses or storm drain facilities. PDFs for the SOCTIIP build Alternatives include BMPs such as extended detention basins (EDBs) and grassy swales. The disturbance and right-of-way limits for the build Alternatives, shown on the detailed maps in Appendix A, include areas for EDBs and other BMPs. The PDFs consist of both pollution prevention BMPs and treatment BMPs. Pollution prevention BMPs are used to address design phase elements, construction, and spill mitigation. Treatment BMPs are used in the design to meet regulatory water quality requirements at specific locations. Both pollution prevention and treatment BMPs are included in the build Alternatives to the MEP. Most of the treatment BMPs, such as EDBs, are designed with a safety factor such that they will function in conditions beyond those prescribed by Caltrans National Pollutant Discharge Elimination System (NPDES) permit.		
PDF 9-8. Prior to completion of final design of the selected alternative, TCA shall obtain approval of the hydrologic methodology and parameters to be analyzed in the Final Hydrologic Technical Report and incorporated into the Final Location Hydraulic Study from affected jurisdictional agencies.	TCA	During Final Design
PDF 9-9. Final design will include refinements to ensure that the bridges will be constructed to span the 100-year floodplain without raising the 100-year base floodplain water surface elevation more than 0.3 meter (1.0 foot), or otherwise causing adverse changes in the extent of the floodplain or the potential for erosion.	TCA	During Final Design
PDF 11-1: Bridges for Wildlife Crossings under the Corridor Alternatives. As described earlier in Section 2.5.1.5, the corridor Alternatives include bridge structures that would provide opportunities for wildlife to cross the corridor alignments. These wildlife crossings are intended to link together areas of suitable wildlife habitat that would otherwise be separated by the corridor alignments. Wildlife crossings are shown on the detailed maps in Appendix A and on Figure 4.11-6 later in this EIS/SEIR. Section 4.11 (Affected Environment, Impacts and Mitigation Measures Related to Wildlife, Fisheries and Vegetation) provides additional discussion regarding wildlife and wildlife corridors in the study area and how wildlife movements are accommodated by	TCA and Project and Biologist	During Final Design

Table 7.26-24 (continued)
Mitigation Monitoring and Reporting Program
for the Preferred Alternative

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
the bridges in the corridor Alternatives.		
PDF 18-1: Lighting for the Corridor Alternatives. The corridor Alternatives will include pole-mounted lighting at the toll plazas, ramps, and other locations as required by Caltrans standards. Lighting in areas away from the toll plazas, ramps, and other locations as required by Caltrans standards will be minimized to avoid unnecessary light effects in more rural areas adjacent to the corridor. In addition, all lighting along the corridors will be shielded and directed to focus the light on the corridor and its facilities to minimize light leakage outside the corridor limits.	TCA and Caltrans	During Final Design
PDF 8-2: Landscaping for the Corridor. The corridor Alternatives will include landscaping for unpaved areas within the corridor rights-of-way. Landscaping will focus on native plant species, particularly in areas adjacent to undeveloped land with native plant species. In addition, the landscaping will include design components and plant materials intended to reduce the visual impacts of the corridor alternatives on adjacent sensitive uses. Section 4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources) provides additional discussion of the use of native plant materials and other landscaping to soften views of the corridor.	TCA	During Final Design
PDF 11-2: SDG&E NCCP Operational Protocols. Utility relocation will be conducted in a manner that is consistent with the operational protocols established in SDG&E's Subregional NCCP, including measures that address general behavior for all field personnel, preactivity studies and survey work, maintenance, repair and construction of facilities, and construction and maintenance of access roads.		

Source: Austin Foust Associates (2003).

Mitigation Measures Related to Traffic and Circulation

(a) The assumptions for each scenario are as follows:
Scenario 1: Committed circulation system with 14,000 DU proposed RMV plan.
Scenario 3: Build out circulation system with 14,000 DU proposed RMV plan.
Scenario 4: Build out circulation system with 21,000 DU OCP-2000 plan for RMV.

(b) Refer to Section 3.6 (Long Range Mitigation Measures) for detailed discussion of project mitigation.

Table 7.2-1
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Far East Corridor-Modified Alternative		
None.	None.	Not applicable.
Far East Corridor-West Alternative		
None.	None.	Not applicable.
Central Corridor-Complete Alternative		
Long range peak hour LOS intersection deficiency: I-5 northbound ramps & Avenida Pico under Scenarios 1, 3 and 4.	No conventional intersection enhancements could be identified (traffic share = 19%).	Significant.[b]
Long range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 58%).	Significant.[b]
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Avd Pico under Scenarios 1, 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 58%).	Significant.[b]
Central Corridor-Avenida La Pata Variation Alternative		
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 1 and 3.	Add second eastbound left-turn lane and convert second northbound through lane to shared second through/ second right-turn lane (traffic share = 16%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Vista Hermosa under Scenarios 1 and 3.	Add third eastbound through lane and second westbound left-turn lane (traffic share = 22%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Avd Talega & Ave Vista Hermosa under Scenario 1.	Add third westbound through lane (traffic share = 37%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Avd Vista Hermosa & Avd Pico under Scenario 1.	Add westbound right-turn lane and convert third eastbound through lane to third eastbound left-turn lane (traffic share = 31%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long-range peak hour LOS intersection deficiency: Cm Vera Cruz & Avd Vista Hermosa under Scenario 1.	Add third eastbound and westbound through lanes and second southbound left-turn lane (traffic share = 10%).	Less than significant.
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 1 and 3.	Add third eastbound through lane and second eastbound left-turn lane (traffic share = 17%).	Significant.
Long-range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 1 and 3.	Reconstruct intersection as part of ramp improvement listed below to provide separate southbound on-ramps from eastbound and westbound Avd Pico (traffic share = 21%).	Less than significant.
Long-range peak hour LOS ramp deficiency: I-5 northbound off-ramp at Avd Pico under Scenarios 1 and 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 36%).	Less than significant.
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1 and 3.	Widen to a two-lane on-ramp (traffic share = 6%).	Less than significant.
Long-range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 1 and 3.	Provide separate on-ramps from eastbound and westbound Avd Pico (traffic share = 35%).	Significant.
Alignment 7 Corridor-Far East Crossover-Modified (Preferred) Alternative		
None.	None.	Not applicable.
Alignment 7 Corridor-Avenida La Pata Variation Alternative		
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 1 and 3.	Add second eastbound left-turn lane and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 16%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Avd la Pata & Avd Vista Hermosa under Scenarios 1 and 3.	Add third eastbound through lane and second westbound left-turn lane (traffic share = 22%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long-range peak hour LOS intersection deficiency: Avd Talega & Ave Vista Hermosa under Scenario 1.	Add third westbound through lane (traffic share = 37%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Avd Vista Hermosa & Avd Pico under Scenario 1.	Add westbound right-turn lane and convert third eastbound through lane to third eastbound left-turn lane (traffic share = 31%).	Less than significant.
Long-range peak hour LOS intersection deficiency: Cm Vera Cruz & Avd Vista Hermosa under Scenario 1.	Add third eastbound and westbound through lanes and second southbound left-turn lane (traffic share = 10%).	Less than significant.
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 1 and 3.	Add third eastbound through lane and second eastbound left-turn lane (traffic share = 17%).	Significant.
Long-range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 1 and 3.	Reconstruct intersection as part of ramp improvement listed below to provide separate southbound on-ramps from eastbound and westbound Avd Pico (traffic share = 21%).	Less than significant.
Long-rang peak hour LOS ramp deficiency: I-5 northbound off-ramp at Avd Pico under Scenarios 1 and 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 36%).	Less than significant.
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1 and 3.	Widen to a two-lane on-ramp (traffic share = 6%).	Less than significant.
Long-range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 1 and 3.	Provide separate on-ramps from eastbound and westbound Avd Pico (traffic share = 35%).	Significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Arterial Improvements Only Alternative		
Long range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 3.	Implement at-grade improvement plan: add third eastbound and northbound left-turn lanes and provide eastbound free right-turn lane (traffic share = 11%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 11%).	Significant.
Long range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 4.	Implement at-grade improvement plan: add fourth eastbound and westbound through lanes and third northbound, southbound, eastbound and westbound left-turn lanes, and provide westbound free right-turn lane (traffic share = 11%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 11%).	Significant.
Long range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenario 4.	Implement at-grade improvement plan: add third eastbound and westbound through lanes and third southbound and westbound left-turn lanes, and provide northbound, southbound and westbound free right-turn lanes (traffic share = 5%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy-La Pata Ave (traffic share = 5%).	Significant.
Long range peak hour LOS intersection deficiency: Antonio Pkwy & North River Rd under Scenario 3.	Add third southbound and westbound left-turn lanes (traffic share = 12%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long range peak hour LOS intersection deficiency: Antonio Pkwy & Oso Pkwy under Scenarios 3 and 4.	Implement at-grade improvement plan: add fourth eastbound and westbound through lanes and third northbound, eastbound and westbound left-turn lanes, and provide northbound and westbound free right-turn lanes (traffic share = 16%). Or implement grade separated improvement plan: Signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 16%).	Significant.
Long range peak hour LOS intersection deficiency: Avd Empresa & Avd De Las Banderas under Scenarios 3 and 4.	Add second eastbound left-turn lane (traffic share = 2%).	Less than significant.
Long range peak hour LOS intersection deficiency: Avd Empresa & Santa Margarita Pkwy under Scenarios 3 and 4.	Convert eastbound right-turn lane to a free right-turn lane and add northbound shared third left-turn lane/through lane (traffic share = 4%).	Less than significant.
Long range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 3 and 4.	Implement at-grade improvement plan: add third northbound through lane and second and third eastbound left-turn lanes, and provide westbound free right-turn lane (traffic share = 26%). Or implement grade separated improvement plan: signalized control of all intersection movements except eastbound and westbound through traffic on Avd Pico (traffic share = 26%).	Less than significant.
Long range peak hour LOS intersection deficiency: Avd La Pata & Avd Vista Hermosa under Scenarios 3 and 4.	Add fourth southbound through lane, second southbound, eastbound and westbound left-turn lanes, and westbound right-turn lane (traffic share = 16%).	Less than significant.
Long range peak hour LOS intersection deficiency: Felipe Rd & Oso Pkwy under Scenarios 3 and 4.	Add fourth eastbound and westbound through lanes and second southbound left-turn lane, and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 4%).	Less than significant.
Long range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 3 and 4.	Add third eastbound through lane (traffic share = 8%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 3 and 4.	Add second westbound left-turn lane (traffic share = 13%).	Less than significant.
Long range peak hour LOS intersection deficiency: Marguerite Pkwy & Jeronimo Rd under Scenario 4.	Add second northbound left-turn lane (traffic share = 6%).	Less than significant.
Long range peak hour LOS intersection deficiency: SR 241 northbound ramps & Antonio Pkwy under Scenario 3.	Convert third westbound through lane to shared third through/second right-turn lane (traffic share = 3%).	Less than significant.
Long range peak hour LOS intersection deficiency: SR 241 northbound ramps & Oso Pkwy under Scenarios 3 and 4.	Add third westbound through lane, second eastbound left-turn lane, and second eastbound right-turn lane (traffic share = 14%).	Significant.
Long range peak hour LOS intersection deficiency: SR 241 southbound ramps & Oso Pkwy under Scenario 4.	Add third eastbound through lane (traffic share = 17%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 3 and 4.	Widen to a two-lane on-ramp (traffic share = 22%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Crown Valley Pkwy under Scenario 3.	Widen to a two-lane on-ramp (traffic share = 6%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Crown Valley Pkwy under Scenario 3.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 5%).	Significant.
Long range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Ortega Hwy under Scenario 4.	Widen to a two-lane on-ramp or provide separate on-ramps from eastbound and westbound Ortega Hwy (traffic share = 5%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Oso Pkwy under Scenario 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 2%).	Less than significant.
Long range peak hour LOS ramp deficiency: SR 241 northbound on-ramp at Antonio Pkwy under Scenario 3.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 4%).	Less than significant.
Long range peak hour LOS ramp deficiency: SR 241 southbound off-ramp at Antonio Pkwy under Scenarios 3 and 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 6%).	Less than significant.
Long range peak hour LOS ramp deficiency: SR 241 northbound on-ramp at Oso Pkwy under Scenarios 3 and 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 18%).	Significant.
Long range peak hour LOS ramp deficiency: SR 241 southbound off-ramp at Oso Pkwy under Scenario 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 21%).	Less than significant.
I-5 Widening Alternative		
Long range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 3.	Add fourth southbound through lane and third eastbound left-turn lane (traffic share = 2%).	Less than significant.
Long range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenarios 1 and 3.	Provide southbound free right-turn lane (traffic share = 2%).	Less than significant.
Long range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenario 4.	Convert second northbound through lane to shared second through/second right-turn lane (traffic share = 2%).	Significant.
Long range peak hour LOS intersection deficiency: Cm Capistrano & San Juan Creek Rd under Scenario 4.	Convert second northbound through lane to shared second through/second right-turn lane (traffic share = 10%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long range peak hour LOS intersection deficiency: Cm Capistrano & Stonehill Dr under Scenario 1.	Add second eastbound through lane and northbound right-turn lane, and convert second southbound through lane to shared second through/second right-turn lane (traffic share = 8%).	Less than significant.
Long range peak hour LOS intersection deficiency: Felipe Rd & Oso Pkwy under Scenario 4.	Add fourth eastbound through lane and second southbound left-turn lane, and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 4%).	Less than significant.
Long range peak hour LOS intersection deficiency: I-5 northbound ramps & Crown Valley Pkwy under Scenario 4.	Add fourth eastbound through lane (traffic share = 8%).	Less than significant.
Long range peak hour LOS intersection deficiency: I-5 northbound ramps & Oso Pkwy under Scenario 1.	Add northbound shared second left-turn/second right-turn lane (traffic share = 4%).	Less than significant.
Long range peak hour LOS intersection deficiency: Los Altos & Crown Valley Pkwy under Scenario 4.	Modify southbound approach to provide a left-turn lane and a shared through/right-turn lane and eliminate north/south split phasing (traffic share = 5%).	Less than significant.
Long range peak hour LOS intersection deficiency: Marguerite Pkwy & Avery Pkwy under Scenario 4.	Add southbound right-turn lane (traffic share = 3%).	Less than significant.
Long range peak hour LOS intersection deficiency: Marguerite Pkwy & Crown Valley Pkwy under Scenario 1.	Add third northbound through lane and convert second southbound through lane to shared second through/second right-turn lane (traffic share = 2%).	Significant.
Long range peak hour LOS intersection deficiency: Puerta Real & Crown Valley Pkwy under Scenario 4.	Convert southbound through lane to shared through/second right-turn lane (traffic share = 3%).	Less than significant.
Long range peak hour LOS intersection deficiency: Rancho Viejo Rd & Ortega Hwy under Scenario 1.	Add third eastbound through lane (traffic share = 2%).	Less than significant.

Table 7.2-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure and Traffic Share Percentages	CEQA Level of Significance after Mitigation
Long range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Avd Pico under Scenario 1.	Widen to a two-lane on-ramp (traffic share = 5%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Avd Vista Hermosa under Scenario 1.	Widen to a two-lane on-ramp (traffic share = 4%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Avd Vista Hermosa under Scenario 1.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 16%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Crown Valley Pkwy under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 9%).	Significant.
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Crown Valley Pkwy under Scenarios 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 11%).	Significant.
Long range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Ortega Hwy under Scenarios 1, 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 9%).	Less than significant.
Long range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Stonehill Dr under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 16%).	Significant.
No Action Alternatives		
None.	None.	Not applicable.

Source: Austin Foust Associates (2003).

[a] The assumptions for each scenario are as follows:
Scenario 1: Committed circulation system with 14,000 DU proposed RMV plan.
Scenario 3: Build out circulation system with 14,000 DU proposed RMV plan.
Scenario 4: Build out circulation system with 21,000 DU OCP-2000 plan for RMV.

[b] Mitigation to address these impacts as they relate to FHWA Policy, ramp deficiency and possible indirect impacts to I-5 from the CC Alternative are addressed in Sections 3.7.2 and 3.7.3.

Table 7.2-2
Summary of Direct Adverse Long-Term Impacts that Remain Significant Under CEQA after Mitigation

Locations where Direct Adverse Impacts Occur Compared to the No Action Alternative	Jurisdiction	Build Alternative(s) and Analysis Scenario(s) in which the Direct Adverse Impacts Remain Significant after Mitigation[a]
INTERSECTIONS		
Antonio Parkway & Crown Valley Parkway	County of Orange	• AIO Alternative under Scenario 3 with the proposed at-grade improvement plan.
Antonio Parkway-La Pata Avenue & Ortega Highway	County of Orange	• AIO Alternative under Scenario 4 with either the proposed at-grade or grade separated improvement plan. • I-5 Alternative under Scenario 4.
Antonio Parkway & Oso Parkway	County of Orange	AIO Alternative under Scenarios 3 and 4 with either the proposed at-grade or grade separated improvement plan.
I-5 northbound ramps & Avenida Pico	San Clemente	• CC under Scenarios 1, 3 and 4. CC-ALPV and A7C-ALPV (under Scenarios 1 and 3.
Marguerite Parkway & Crown Valley Parkway	Mission Viejo	• I-5 Alternative under Scenario 1.
SR 241 northbound ramps & Oso Parkway	Rancho Santa Margarita	• AIO Alternative under Scenarios 3 and 4.
FREEWAY/TOLLWAY RAMPS		
I-5 northbound on-ramp at Avenida Pico	Caltrans/San Clemente	• CC under Scenarios 1, 3 and 4.
I-5 southbound off-ramp at Avenida Pico	Caltrans/San Clemente	• CC under Scenarios 1, 3 and 4. CC-ALPV and A7C-ALPV (Initial and Ultimate) under Scenarios 1 and 3.
I-5 northbound direct on-ramp at Crown Valley Parkway	Caltrans/Mission Viejo	• I-5 Alternative under Scenario 4.
I-5 southbound off-ramp at Crown Valley Parkway	Caltrans/Mission Viejo	• AIO Alternative under Scenario 3. • I-5 Alternative under Scenarios 3 and 4.

Table 7.2-2 (continued)
Summary of Direct Adverse Long Term Impacts that Remain Significant Under CEQA after Mitigation

Locations where Direct Adverse Impacts Occur Compared to the No Action Alternative	Jurisdiction	Build Alternative(s) and Analysis Scenario(s) in which the Direct Adverse Impacts Remain Significant after Mitigation[a]
I-5 northbound on-ramp at Stonehill Drive	Caltrans/ San Juan Capistrano	• I-5 Alternative under Scenarios 1, 3 and 4.
SR 241 northbound on-ramp at Oso Parkway	Caltrans/ Rancho Santa Margarita	• AIO Alternative under Scenario 4.

Source: Austin Foust Associates (2003).
[a] The assumptions for each scenario are as follows:
Scenario 1: Committed circulation system with 14,000 DU proposed RMV plan.
Scenario 3: Build out circulation system with 14,000 DU proposed RMV plan.
Scenario 4: Build out circulation system with 21,000 DU OCP-2000 plan for RMV.

Table 7.3-1
Summary of Thresholds and Significant Adverse Impacts Related to Land Use

Alternative	Land Use Impacts		
	Conflicts with an adopted land use plan, plan policy or regulation of an agency with jurisdiction over the project, including but not limited to GPs, SPs, LCPs or ZOs) adopted for the purpose of avoiding or mitigating an environmental effect.	Conflicts with any applicable HCP or NCCP or the Camp Pendleton INRMP.	Physically divides an established community.
FEC-W	Significant	Not Significant	Not Significant
FEC-M	Significant	Not Significant	Not Significant
CC	Significant	Not Significant	~~Not~~ Significant
CC-ALPV	Significant	Not Significant	~~Not~~ Significant
A7C-FEC-M/ Preferred	Significant	Not Significant	Not Significant
A7C-ALPV	Significant	Not Significant	~~Not~~ Significant
AIO[1]	Significant	Not Significant	Significant
I-5[1]	Significant	Not Significant	Significant
No Action OCP[2]	Significant	Not Significant	Not Significant
No Action RMV[2]	Significant	Not Significant	Not Significant

Source: P&D Consultants (2003).

[1] Even though physical barriers such as I-5 or major arterials such as Antonio Parkway already are in place, the expansion of these facilities would further physically divide existing communities as a result of wider roads, and associated ramps, interchanges and intersections.

[2] The two No Action Alternatives are not consistent with the Master Plan of Arterial Highways (MPAH) and the General Plans which show the MPAH including the FTC-S.

GPs: General Plans.
SPs: Specific Plans.
LCPs: Local Coastal Programs.
ZOs: Zoning Ordinances.
HCP: Habitual Conservation Plan.
NCCP: Natural Communities Conservation Plan.
INRMP: Integrated Natural Resources Plan.

Table 7.3-2
Summary of Impacts, Mitigation Measures and Level of Significance after Mitigation Related to Land Use

Adverse Impacts	Mitigation Measures[1]	CEQA Significance after Mitigation
FEC-M ALTERNATIVE		
Existing uses and leases on RMV would be directly impacted.	LU-1 (Existing Uses).	Not Significant.
Uses in San Onofre State Beach Cristianitos Subunit would be impacted.	LU-1 (Existing Uses).	Significant.
FEC-W ALTERNATIVE		
Existing uses and leases on RMV would be directly affected.	LU-1 (Existing Uses) and LU-2 (TRW).	Not significant.
Uses in San Onofre State Beach Cristianitos Subunit would be impacted.	LU-1 (Existing Uses).	Significant.
CC ALTERNATIVE		
Existing and planned land uses in the City of San Clemente would be directly impacted.	LU-1 (Existing Land Uses).	Significant.
Established communities in the City of San Clemente would be physically divided.	LU-1 (Existing Land Uses).	Significant.
Existing uses in the County of Orange would be directly impacted.	LU-1 (Existing Land Uses).	Not significant.
CC-ALPV ALTERNATIVE		
Existing and planned land uses in the City of San Clemente would be directly impacted.	LU-1 (Existing Land Uses).	Significant.
Established communities in the City of San Clemente would be physically divided.	LU-1 (Existing Land Uses).	Significant.
Existing uses in the County of Orange would be directly impacted.	LU-1 (Existing Land Uses).	Significant.
A7C-FEC-M/PREFERRED ALTERNATIVE		
Existing uses and leases on RMV would be directly affected.	LU-1 (Existing Uses).	Not significant.
Uses in San Onofre State Beach Cristianitos Subunit would be impacted.	LU-1 (Existing Uses).	Significant.
A7C-ALPV ALTERNATIVE		
Existing and planned land uses in the City of San Clemente and the County of Orange would be directly impacted.	LU-1 (Existing Land Uses).	Significant.
Established communities in the City of San Clemente would be physically divided.	LU-1 (Existing Land Uses).	Significant.
AIO		
Existing land uses in the County of Orange and the City of San Clemente would be directly impacted.	LU-1 (Existing Land Uses).	Significant.
Established communities in the County of Orange and the City of San Clemente would be physically divided.	LU-1 (Existing Land Uses).	Significant.
I-5		
Existing and planned land uses along I-5 would be impacted.	LU-1 (Existing Land Uses).	Significant.
Established communities along I-5 would be physically divided.	LU-1 (Existing Land Uses).	Significant.

Table 7.3-2 (continued)
Summary of Impacts, Mitigation Measures and Level of Significance after Mitigation Related to Land Use

Adverse Impacts	Mitigation Measures[1]	CEQA Significance after Mitigation
NO ACTION-OCP AND NO ACTION-RMV ALTERNATIVES		
No Impacts.	None necessary.	Not significant.
Potential for Cumulative Land Use Impacts		
All the SOCTIIP corridor Alternatives and the AIO Alternative traverse the RMV and, therefore, would contribute to a cumulative land use impact as a result of converting currently undeveloped land to an urban road use. However, this is not an adverse impact for two reasons. First, except for the RMV property, the study area is either developed or planned for development. Second, the conversion of land to a road use for the corridor alternatives would not change the overall balance of different land uses planned in the adopted demographic forecast, OCP-2000. This is also consistent with the Congestion Management Plan and Growth Management Element requirements for the provision of infrastructure. The I-5 Alternative would not contribute to the conversion of undeveloped land because there is very little undeveloped land along this corridor. There would be an adverse impact on residential uses as a result of those SOCTIIP build Alternatives which would result in the acquisition of existing housing or the acquisition of areas approved for housing. However, residential uses continue to be developed throughout Orange County, in Planned Communities (PCs) and infill/redevelopment projects. Therefore, the loss of housing associated with the SOCTIIP Alternatives is somewhat offset by the continued development of housing throughout the County. FEC-W, FEC-M and A7C-FEC-M Alternatives would all have cumulative impacts to the Marine Corps Base Camp Pendleton by impacting the buffer that SOSB provides and creating a physical barrier on the northern boundary of the Base. The other build alternatives would not contribute to cumulative encroachment impacts on Camp Pendleton.		

Source: P&D Consultants (2003)

[1] All temporary occupancy and permanent acquisition of right-of-way for the build alternatives will be conducted consistent with the requirements of the Uniform Relocation and Assistance Real Property Acquisition Polices Act of 1970, as amended (California Government Code, Chapter 16, Section 7260, et. seq.). A mitigation measure regarding compliance with this Act for all temporary use and permanent acquisition of property for the build alternatives is included in Section 4.4 (Affected Environment, Impacts and Mitigation Related to Socioeconomics and Environmental Justice) in the EIS/SEIR. That measure would also apply to the land use impacts of these Alternatives.

Table 7.4-1
Summary of Thresholds and Significant Adverse Impacts to Agricultural Resources

Alternative	Agricultural Impacts		
	Converts Farmland, as shown on maps prepared pursuant to the FMMP of the CRA, to non-agricultural use.	Conflicts with existing zoning for agricultural use or a Williamson Act contract (agricultural preserve).	Involves other changes in the existing environment which, due to their location or nature, could result in conversion of "Farmland" to non-agricultural use.
FEC-W	Significant	Significant	Significant
FEC-M	Significant	Significant	Significant
CC	Significant	Significant	Significant
CC-ALPV	Significant	Significant	Significant
A7C-FEC-M/ Preferred	Not Significant	Significant	Significant
A7C-ALPV	Significant	Significant	Significant
AIO	Significant	Significant	Significant
I-5	Not Significant	Not Significant	Not Significant
No Action OCP	Not Significant	Not Significant	Not Significant
No Action RMV	Not Significant	Not Significant	Not Significant

Source: P&D Consultants (2003).
FMMP: Farmland Mapping and Monitoring Program.
CRA: California Resources Agency.
Note: Notices of non-renewal have been filed for all the areas on the RMV property and the lands will be removed from the preserve in accordance with those notices. This substantially reduces the impact to agricultural preserves.

Table 7.4-2
Summary of Impacts, Mitigation Measures and Level of Significance after Mitigation
Related to Agricultural Resources

Adverse Impacts	Mitigation Measures[1]	CEQA Significance after Mitigation
FEC-W ALTERNATIVE		
34 ha (83 ac) (I) or 34 ha (85 ac) (U) of rated agricultural land impacted.	AG-1 to AG-3 (RMV Agricultural Operations) and (Camp Pendleton Agricultural Operations), AGC-1.	Significant.
111 ha (275 ac) (I) or 113 ha (281 ac) (U) of agricultural preserves impacted.	None.	Significant.
FEC-M ALTERNATIVE		
23 ha (56 ac) (I) or 25 ha (61 ac) (U) of rated agricultural land impacted.	AG-1 to AG-3 (RMV Agricultural Operations) and (Camp Pendleton Agricultural Operations), AGC-1.	Significant.
124 ha (307 ac) (I) or 134 ha (332 ac) (U) of agricultural preserves impacted.	None.	Significant.
CC ALTERNATIVE		
18 ha (45 ac) (I) or 22 ha (55 ac) (U) of rated agricultural land impacted.	AG-1 to AG-2 (RMV Agricultural Operations), AGC-1.	Significant.
87 ha (214 ac) (I) or 112 ha (277 ac) (U) of agricultural preserves impacted.	None.	Significant.
CC-ALPV ALTERNATIVE		
18 ha (45 ac) (I) or 22 ha (55 ac) (U) of rated agricultural land impacted.	AG-1 to AG-2 (RMV Agricultural Operations), AGC-1.	Significant.
87 ha (214 ac) (I) or 112 ha (277 ac) (U) of agricultural preserves impacted.	None.	Significant.
A7C-FEC-M/PREFERRED ALTERNATIVE		
3 ha (7 ac) (I) or 3 ha (7 ac) (U) of rated agricultural land impacted.	AG-1 to AG-3 (RMV Agricultural Operations) and (Camp Pendleton Agricultural Operations), AGC-1.	Significant.
90 ha (224 ac) (I) or 94 ha (231 ac) (U) of agricultural preserves impacted.	None.	Significant.

Table 7.4-2 (continued)
Summary of Impacts, Mitigation Measures and Level of Significance after Mitigation
Related to Agricultural Resources

Adverse Impacts	Mitigation Measures[1]	CEQA Significance after Mitigation
A7C-ALPV ALTERNATIVE		
3 ha (8 ac) (I) or 4 ha (9 ac) (U) of rated agricultural land impacted.	AG-1 to AG-2 (RMV Agricultural Operations), AGC-1.	Significant.
168 ha (416 ac) (I) or 179 ha (441 ac) (U) of agricultural preserves impacted.	None.	Significant.
AIO		
7 ha (16 ac) of rated agricultural land impacted.	AG-1 to AG-2 (RMV Agricultural Operations), AGC-1.	Significant.
15 ha (37ac) of agricultural preserves impacted.	None.	Significant.
I-5		
No impacts	None necessary.	Not significant.
NO ACTION-OCP AND NO ACTION-RMV		
No Impacts.	None necessary.	Not significant.
Potential for Cumulative Agricultural Resources Impacts		
The loss of agricultural resources in these areas as a result of the SOCTIIP corridor and AIO Alternatives and other cumulative projects would be an adverse cumulative impact on those resources. The I-5 Alternative would not contribute to an adverse cumulative impact on agricultural resources.		

Source: P&D Consultants (2003).

[1] All temporary occupancy and permanent acquisition of right-of-way for the build alternatives will be conducted consistent with the requirements of the Uniform Relocation and Assistance Real Property Acquisition Polices Act of 1970, as amended (California Government Code, Chapter 16, Section 7260, et. seq.). A mitigation measure regarding compliance with this Act for all temporary use and permanent acquisition of property for the build Alternatives is included in Section 4.4 (Affected Environment, Impacts and Mitigation Related to Socioeconomics and Environmental Justice) in this EIS/SEIR. That measure would also apply to the land use impacts of this Alternative.

I: Initial

U: Ultimate

Notice: Notices of the non-renewal of the agricultural preserve have been filed for all the areas on the RMV property. The impact to agricultural preserves will be eliminated or substantially reduced based on that noticing.

Table 7.5-1
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Far East Corridor – Modified Alternative			
Residential and Non-Residential Displacements	Displaces two active agricultural operations. Adverse.	SE-2 Property acquisition and relocation assistance.	Less than significant.
Community Cohesion	None.	None required.	Not applicable.
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Rancho Santa Margarita, San Clemente, Orange County and Capistrano Unified School District (CUSD). Adverse.	None proposed.	Less than significant.
	Short term increase in jobs estimated at 19,000 (Initial) or 23,000 (Ultimate), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (20,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development.	None proposed.	Significant.
Far East Corridor – West Alternative			
Residential and Non-Residential Displacement	Displaces one active agricultural operations. Adverse.	SE-2	Less than significant.
Community Cohesion	None.	None required.	Not applicable.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Rancho Santa Margarita, San Clemente, Orange County and CUSD. Adverse.	None proposed.	Less than significant.
	Short term increase in jobs estimated at 17,000 (Initial) or 21,000 (Ultimate), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (20,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development.	None proposed.	Significant.
Central Corridor – Complete Alternative			
Residential and Non-Residential Displacement	Displaces 593 dus and 1,380 persons (Initial) or 602 dus and 1,405 persons (Ultimate). Displaces 106 business, institutional and non-profit uses and 1,100 employees. Substantially adverse.	SE-1 Avoidance and minimization of the temporary use and/or permanent acquisition of residential and non-residential property.	Less than significant.
	Displaces 3 active agricultural operations. Adverse.	SE-2 SE-3 Replacement housing program.	
Community Cohesion	Divides existing neighborhoods in the Talega PC and six community facilities (two senior services facilities and four churches in San Clemente). Substantially adverse.	SE-2	Significant.
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Rancho Santa	None proposed.	Less than significant.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Margarita, Orange County and CUSD. Adverse.		
	Property acquisition results in an estimated >1.0 percent reduction of the City of San Clemente property tax revenue. Substantially adverse.	None proposed.	Significant.
	Displaces 89 commercial uses and 379 lodging rooms, impacting sales tax and transit occupancy tax (TOT) revenues in the City of San Clemente. The majority are in the Downtown/El Camino Real business district. The displacement of these uses would be an adverse impact at the local level on the City due to a loss of commercial business opportunity, employment, and sales tax and TOT revenues. Potential short term loss of business and sales tax revenues to businesses not displaced in the immediate vicinity of construction activities. Adverse.	SE-1 and SE-2.	Significant
	Loss of capacity at Prima Deshecha Landfill results in increased cost to ratepayers for alternate disposal and a loss of tip fees to the County of Orange. Adverse.	SE-1	Not applicable.
	Short term increase in jobs, estimated at 23,000 (Initial) and 31,000 (Ultimate), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (18,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development.	None proposed.	Significant.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Central Corridor-Avenida La Pata Variation Alternative			
Residential and Non-Residential Displacement	Displaces 2 dus and 7 persons (Initial) and 14 dus and 44 persons (Ultimate). Adverse. Displaces three active agricultural operations. Adverse.	SE-1 and SE-2.	Less than significant.
Community Cohesion	None.	None required.	Not applicable.
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Rancho Santa Margarita, San Juan Capistrano, San Clemente, Orange County and CUSD. Adverse.	None proposed.	Less than significant.
	Loss of capacity at Prima Deshecha Landfill results in increased cost to ratepayers for alternate disposal and loss of tip fees to the County of Orange. Adverse.	SE-1	Not applicable.
	Short term increase in jobs estimated at 15,000 jobs (Initial) and 18,000 (Ultimate) jobs), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (8,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas that are planned and currently under development.	None proposed.	Significant.
Alignment 7 Corridor – Far East Crossover-Modified (Preferred) Alternative			
Residential and Non-Residential Displacement	None	None required.	Not applicable.
Community Cohesion	None.	None required.	Not applicable.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Rancho Santa Margarita, San Clemente, Orange County and CUSD. Adverse.	None proposed.	Less than significant.
	Short term increase in jobs, estimated at 17,000 (Initial) and 21,000 (Ultimate), local business revenues and local sales tax revenues due to construction. Beneficial.	None proposed.	Not applicable.
	Long term congestion relief (21,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None proposed.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development. Due to the County approval of the Ranch Plan and subsequent Settlement Agreement, the development intensity and location on the Ranch Plan are now established, limiting the growth-inducing effects of a SOCTIIP alternative. In addition, growth-inducing impacts are reduced by limiting the Preferred Alternative to six general purpose lanes.	None proposed.	Reduced but still ~~S~~significant.
Alignment 7 Corridor – Avenida La Pata Variation Alternative			
Residential and Non-Residential Displacement	Displaces 80 dus and 256 persons (Initial) or 92 dus and 293 persons (Ultimate). Adverse.	SE-1 and SE-2.	Less than significant.
Community Cohesion	Divides an existing neighborhood in the Talega PC.	SE-2.	Significant.
Economic Impacts	Property acquisition results in minor reduction in	None proposed.	Less than

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	property tax revenues (<1.0%) to Rancho Santa Margarita, San Clemente, Orange County and CUSD. Adverse.		significant.
	Loss of capacity at Prima Deshecha Landfill results in increased cost to ratepayers for alternate disposal and loss of tip fees to the County of Orange. Adverse.	SE-1	Not applicable.
	Short term increase in jobs, estimated at 28,000 (Initial) and 30,000 (Ultimate), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (8,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.		
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development.	None proposed.	Significant.
Arterial Improvements Only Alternative			
Residential and Non-Residential Displacement	Displaces 17 business, institutional and non-profit uses and 200 employees. Displaces two active agricultural operations. Adverse.	SE-1 and SE-2.	Less than significant.
Community Cohesion	None.	None required.	Not applicable.
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, San Clemente, and CUSD. Adverse.	None proposed.	Less than significant.
	Displaces 4 commercial uses in the City of Rancho Santa Margarita. It appears there are sufficient replacement resources to accommodate the displaced	SE-1 and SE-2.	Less than significant.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	uses in the replacement area, and the impact on sales tax revenues should be minor. Adverse.		
	Loss of capacity at Prima Deshecha Landfill results in increased cost to ratepayers for alternate disposal and loss of tip fees to the County of Orange. Adverse.	SE-1.	Not applicable.
	Short term increase in jobs (11,000), local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (5,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively greater than for Alternatives that pass primarily through existing developed areas and areas planned and currently under development.	None proposed.	Significant.
I-5 Alternative			
Residential and Non-Residential Displacement	Displaces 838 dus and 1,970 persons. Displaces 382 businesses, institutional and non-profit uses and 4,150 employees. Substantially adverse.	SE-1, SE-2 and SE-3.	Less than significant.
Community Cohesion	Displace seven community facilities, including one USPS Post Office, one City administrative office, four churches and one private school, in Laguna Hills, Laguna Niguel, Lake Forest, San Clemente, and San Juan Capistrano. Substantially adverse.	SE-1 and SE-2.	Significant.
Economic Impacts	Property acquisition results in minor reduction in property tax revenues (<1.0%) to Dana Point, Irvine, Laguna Hills, Laguna Niguel, Lake Forest, County of Orange, CUSD, SVUSD and IUSD. Adverse.	None proposed.	Less than significant.
	Property acquisition results in an estimated >1.0	None proposed.	Significant.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	percent reduction of Mission Viejo, San Juan Capistrano, and San Clemente property tax revenue. Substantially adverse.		
	Displaces 336 commercial uses and 497 lodging rooms, impacting sales tax and TOT revenues in Laguna Hills, Laguna Niguel, Lake Forest, Mission Viejo, San Juan Capistrano and San Clemente. Many displacements are in the San Clemente Downtown/El Camino Real business district. Displacement of existing commercial and lodging uses would be an adverse impact at the local level on Laguna Niguel and San Clemente due to a loss of commercial business opportunity, employment, and sales tax and TOT revenues. Potential short term loss of business revenue and sales tax revenue to businesses not displaced in the immediate vicinity of construction activities. Adverse.	SE-1 and SE-2.	Significant
	Short term increase in employment opportunities, estimated at 43,000 jobs local business revenues and local sales tax revenues due to construction. Beneficial.	None required.	Not applicable.
	Long term congestion relief (20,000 hours of vehicle travel time per day in 2025) resulting in economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Beneficial.	None required.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively lower than for Alternatives that pass primarily through unplanned/uncommitted areas, primarily RMV.	None proposed.	Significant.

Table 7.5-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Socioeconomics and Growth Inducement

Parameter	Adverse and Substantially Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance after Mitigation
No Action Alternatives			
Residential and Non-Residential Displacement	None.	None required.	Not applicable.
Community Cohesion	None.	None required.	Not applicable.
Economic Impacts	Foregone long term congestion relief (ranging from 5,000 to 21,000 hours of vehicle travel time per day in 2025 compared to Build Alternatives) and resulting economic benefits in terms of the value of time saved and increased economic activity from improved mobility for people, goods and services. Substantially adverse. (Not a CEQA issue, economic only)	None proposed.	Not applicable.
Growth Inducement	Potential to facilitate and support growth. These effects would be relatively lower than for Alternatives that pass primarily through unplanned/uncommitted areas, primarily RMV.	None proposed.	Significant.
Potential for Cumulative Socioeconomics and Environmental Justice Impacts			
The SOCTIIP Alternatives and other cumulative projects will not result in cumulative adverse impacts related to residential and non-residential displacements, community cohesion, economics and Environmental Justice. The SOCTIIP build Alternatives and the No Action Alternative potentially could contribute to cumulative impacts relating to facilitating or supporting growth in the study area. The cumulative effects of this growth could result in impacts on a variety of areas, including agricultural resources, hydrology/drainage, water quality, air quality, noise, biological resources, aesthetics, cultural resources, recreation, mineral resources, public services, and utilities and services. Potential cumulative impacts in these areas are discussed in the respective sections addressing these issues. Other related topics such as changes in travel patterns and accessibility, impacts on public safety and traffic safety are found in other tables in this Section.			

Source: P&D Consultants (2003).

[1] The full text of all the mitigation measures is provided in Section 4.4 (Affected Environment, Impacts and Mitigation Measures Related to Socioeconomics and Environmental Justice) in the EIS/SEIR.

[2] For methodology regarding residential and non-residential displacements, refer to Section 4.4.2 in the EIS/SEIR.

Table 7.6-1
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Pedestrian and Bicycle Facilities

Impacts	Mitigation Measure[1]	CEQA Significance after Mitigation
FEC-M Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek Trail Extension.	R-5	Less than significant.
Air quality impacts during construction to Proposed San Juan Creek Trail Extension.	Air quality mitigation.	Significant.
Permanent visual impacts to Proposed San Juan Creek Trail Extension.	Visual impacts mitigation.	Significant.
Two temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
FEC-W Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension and the Proposed Cristianitos Trail.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek Trail Extension and the Proposed Cristianitos Trail.	R-5	Less than significant.
Air quality impacts during construction to Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail.	Air quality mitigation.	sSignificant.
Permanent visual impacts to Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail.	Visual impacts mitigation.	Significant.
Three temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
CC Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trails.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek and Proposed Prima Deshecha Trails.	R-5.	Less than significant.

Table 7.6-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Pedestrian and Bicycle Facilities

Impacts	Mitigation Measure[1]	CEQA Significance after Mitigation
Air quality impacts during construction to Proposed San Juan Creek Trail Extension, Ladera Ranch Open Space Trail and Proposed Prima Deshecha Trails and San Juan Capistrano Open Space and Trails.	Air quality mitigation.	Significant.
Permanent visual impacts to Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trails and Ladera Ranch Open Space Trail.	Visual impacts mitigation.	Significant.
15 Temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
CC-ALPV Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trails.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek and Proposed Prima Deshecha Trails.	R-5	Less than significant.
Air quality impacts during construction to Proposed San Juan Creek Trail Extension, Ladera Ranch Open Space Trails and Proposed Prima Deshecha Trails.	Air quality mitigation.	Significant.
*Permanent visual impacts to Proposed San Juan Creek and Proposed Prima Deshecha Trails.	Visual impacts mitigation.	Significant.
Five temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
A7C-FEC-M/PREFERRED Alternative		
Temporary closure of proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail.	R-5	Less than significant.

Table 7.6-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Pedestrian and Bicycle Facilities

Impacts	Mitigation Measure[1]	CEQA Significance after Mitigation
Air quality impacts during construction to Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trail.	Air quality mitigation.	Significant.
Permanent visual impacts to Proposed San Juan Creek Trail Extension and Proposed Cristianitos Trails.	Visual impacts mitigation.	Significant.
Three temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
A7C-ALPV Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trails.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek and Proposed Prima Deshecha Trails.	R-5	Less than significant.
Air quality impacts during construction to Proposed San Juan Creek and Proposed Prima Deshecha Trails.	Air quality mitigation.	Significant.
Permanent visual impacts to Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trails.	Visual impacts mitigation.	Significant.
Five temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
AIO Alternative		
Temporary closure of Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trail.	R-5	Less than significant.
Permanent acquisition of a portion of Proposed San Juan Creek Trail Extension and Proposed Prima Deshecha Trail.	R-5.	Less than significant.
Air quality impacts during construction to Proposed San Juan Creek Trail Extension, Proposed Prima Deshecha Trails and existing San Juan Capistrano Open Space and Trails.	Air quality mitigation.	Less than significant.
Eight temporary bikeway closures during construction.	Bicycle facilities will be rerouted during	Less than significant.

Table 7.6-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and
CEQA Level of Significance after Mitigation for Pedestrian and Bicycle Facilities

Impacts	Mitigation Measure[1]	CEQA Significance after Mitigation
	construction to an open alternate road.	
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
I-5 Alternative		
Temporary closure of the existing Aliso Creek Trail, existing Trabuco Ridge Trail, existing San Juan Creek Trail, proposed Oso Creek Trail Extension and proposed Marblehead Bluffs Trails.	R-5	Less than significant.
Permanent acquisition of parts of the existing Aliso Creek Trail, existing Trabuco Ridge Trail, existing San Juan Creek Trail, proposed Oso Creek Trail Extension and proposed Marblehead Bluffs Trails.	R-5.	Less than significant.
Air quality impacts during construction to existing Aliso Creek Trail, existing Trabuco Ridge Trail, existing San Juan Creek Trail, proposed Oso Creek Trail Extension and Proposed Marblehead Bluffs Trail.	Air quality mitigation.	Less than Significant.
Forty-one temporary bikeway closures during construction.	Bicycle facilities will be rerouted during construction to an open alternate road.	Less than significant.
Temporary sidewalk closures during construction.	Pedestrian facilities will be rerouted during construction to an open alternate road.	Less than significant.
No Action Alternatives		
No short term or permanent impacts on pedestrian and bicycle facilities.	None.	No impact.
Potential for Cumulative Pedestrian and Bicycle Facilities Impacts		
The SOCTIIP build Alternatives and other cumulative projects will include provisions to accommodate trails and will not result in cumulative adverse impacts to pedestrian and bicycle facilities.		

Source: P&D Consultants (2003).
[1] The full text of all mitigation measures is provided in Section 4.5 (Affected Environment, Impacts and Mitigation Measures Related to Pedestrian and Bicycle Facilities) in the EIS/SEIR.

Table 7.7-1
Construction Noise Impact Summary

Alternative[1]	Construction In All Areas Except San Clemente					Construction in San Clemente[6]				
	Will Pile Driving Impacts Occur Within 850 m (2,800 ft)?)[2]	Will Heavy Grading Impacts Occur Within 1,500 m (5,000 ft)?	Will General Construction Impacts Occur Within 275 m (900 ft)?	Will Haul Route Use Have The Potential To Cause Impacts?[4]	Will Nighttime Demolition Cause Noise Impacts?	Will Pile Driving Impacts Occur Within 500 m (1,600 ft)?[5]	Will Heavy Grading Impacts Occur Within 150 m (500 ft)?	Will General Construction Impacts Occur Within 27 m (90 ft)?	Will Haul Route Use Have The Potential To Cause Impacts?	Will Nighttime Demolition Cause Noise Impacts?
FEC-W	Night	Night	Night	Possible	No	Yes	Yes	Yes	Possible	No
FEC-M	Night	Night	Night	Possible	No	No	No	No	Possible	No
CC	Night.	Night.	Night.	Possible	No	Yes	Yes	Yes	Possible	No
CC-ALPV	No[3]	Night	Night	Possible	No	Yes	Yes	Yes	Possible	No
A7C-ALPV	No	Night	Night	Possible	No	Yes	Yes	Yes	Possible	No
A7C-FEC-M	Night.	Night.	Night.	Possible	No	No	No	No	Possible	No
AIO	No	Night.	Night.	Possible	No	No	No	No	Possible	No
I-5	Night.	Night.	Night.	Possible	**Yes**[7]	Yes	Yes	Yes	Possible	**Yes**[7]

Source: Mestre Greve Associates (2003).

Notes:

1 The potential for construction noise impacts is the same for the Initial and Ultimate corridor.

2 Night. Impacts would only occur if night or weekend construction was necessary and there are sensitive uses within the distance indicated in the column heading.

3 No: No impacts are projected for this category of construction noise for these Alternatives.

4 Possible. Haul routes impacts are possible depending on the routes, number of trucks and adjacent land uses.

5 Yes: Impacts are definitely projected for this category of construction noise.

6 Construction between 6:00 PM and 7:00 AM or anytime on Sunday is prohibited in San Clemente.

7 Impacts that cannot be mitigated to below a level of significance are shown in bold. In this case, the nighttime demolition for the I-5 Alternative cannot be mitigated to below a level of significance because of the heightened sensitivity of receptors at night.

Table 7.7-2
Summary of Impacts, Mitigation Measures and Level of Significance after Mitigation for Noise

Alternative[2]	Impacts Before Noise Abatement				Impacts With Noise Abatement[1]				Mitigation Measures[3]	CEQA Significance after Mitigation
	# of Res.	# of Bus.	# of Schools	# of Parks	# of Res.	# of Bus.	# of Schools	# of Parks		
FEC-M	50	0	2	2	1	0	0	0	N7, N8, N9 and N10	Less than significant.
FEC-W	50	0	2	2	1	0	0	0	N7, N8, N9 and N10	Less than significant.
CC	290	1	4	0	0	0	0	0	N7, N8, N9 and N10	Less than significant.
CC-ALPV	30	0	1	0	0	0	0	0	N7, N8, N9 and N10	Less than significant.
A7C-FEC-M/ Preferred	120	0	2	2	1	0	0	0	N7, N8, N9 and N10	Less than significant.
A7C-ALPV	65	0	1	0	0	0	0	0	N7, N8, N9 and N10	Less than significant.
AIO	0	0	1	0	0	0	0	0	N7, N8, N9 and N10	Less than significant.
I-5	775	5	8	4	225	0	0	1	N7, N8, N9 and N10	Less than significant.
No Action-OCP-2000	585	8	9	2	n/a	n/a	n/a	n/a	n/a	Less than significant.
No Action-RMV	585	8	9	2	n/a	n/a	n/a	n/a	n/a	Less than significant.

Source: Mestre Greve Associates (2003).
[1] Based on minimum wall heights satisfying Caltrans Criteria (i.e. at least 5 dB reduction and breaks line-of-sight (LOS) to 3.5m, although barrier height may vary).
[2] All of the areas exceeding the NAC under the No Action Alternative are located along I-5. Note that these exceedances would occur with any of the build Alternatives but are not included in the table above because noise abatement for these areas is not required under the build Alternatives. These areas are included in the I-5 Widening Alternative.
[3] The full text of the mitigation measures is provided in Section 4.6 (Affected Environment, Impacts and Mitigation Measures Related to Noise).

Table 7.8-1
SCAQMD Emission Thresholds of Significance

Pollutant	Threshold		
	Construction		Operation
	kilograms/day (pounds/day)	tonnes/quarter (tons/quarter)	kilograms/day (pounds/day)
Carbon Monoxide (CO)	249 (550)	22.45 (24.75)	249.48 (550)
Reactive Organic Compounds (ROC)	34 (75)	2.27 (2.5)	24.95 (55)
Nitrogen Oxides (NO_x)	45 (100)	2.27 (2.5)	24.95 (55)
Sulfur Oxides (SO_x)	68 (150)	6.12 (6.75)	68.04 (150)
Particulate Matter (PM10)	68 (150)	6.12 (6.75)	68.04 (150)

Source: South Coast Air Quality Management District. CEQA Air Quality Handbook, (November, 1993).

Table 7.8-2
Summary of Direct Adverse Construction and Operations Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Air Quality

Impacts	Mitigation Measure	CEQA Level of Significance after Mitigation
FEC-W Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
FEC-M Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.

Table 7.8-2 (continued)
Summary of Direct Adverse Construction and Operations Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Air Quality

Impacts	Mitigation Measure	CEQA Level of Significance after Mitigation
CC Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CC-ALPV Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.

Table 7.8-2 (continued)
Summary of Direct Adverse Construction and Operations Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Air Quality

Impacts	Mitigation Measure	CEQA Level of Significance after Mitigation
A7C-FEC-M/Preferred Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
A7C-ALPV Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.

Table 7.8-2 (continued)
Summary of Direct Adverse Construction and Operations Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Air Quality

Impacts	Mitigation Measure	CEQA Level of Significance after Mitigation
AIO Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
CO will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
NO_x will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.
I-5 Alternative		
Construction Impacts		
HC will exceed SCAQMD threshold during construction.	AQ-3	Significant.
CO will exceed SCAQMD threshold during construction.	AQ-3	Significant.
NO_x will exceed SCAQMD threshold during construction.	AQ-3	Significant.
PM_{10} and fugitive dust will exceed SCAQMD threshold during construction	AQ-1, AQ-2, AQ-4 and AQ-5	Significant.
Operations Impacts		
HC will exceed SCAQMD threshold during operation.	None proposed.	Significant.
CO will exceed SCAQMD threshold during operation.	None proposed.	Significant.
NO_x will exceed SCAQMD threshold during operation.	None proposed.	Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not applicable.	Not Significant.

Table 7.8-2 (continued)
Summary of Direct Adverse Construction and Operations Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Air Quality

Impacts	Mitigation Measure	CEQA Level of Significance after Mitigation
No Action Alternatives-OCP 2000 and RMV Development Plan		
Construction Impacts		
HC will not exceed SCAQMD threshold during construction.	Not applicable.	Not Significant.
CO will not exceed SCAQMD threshold during construction.	Not applicable.	Not Significant.
NO_x will not exceed SCAQMD threshold during construction.	Not applicable.	Not Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during construction	Not applicable.	Not Significant.
Operations Impacts		
HC will not exceed SCAQMD threshold during operation.	Not Applicable.	Not Significant.
CO will not exceed SCAQMD threshold during operation.	Not Applicable.	Not Significant.
NO_x will not exceed SCAQMD threshold during operation.	Not Applicable.	Not Significant.
PM_{10} and fugitive dust will not exceed SCAQMD threshold during operation.	Not Applicable.	Not Significant.
Potential for Cumulative Air Quality Impacts		
All the SOCTIIP build Alternatives result in an increase of emissions due to construction. This increase in emissions is projected to be substantial for all pollutants and, if other projects are under construction concurrently, would contribute to a cumulative adverse short term air quality impact. The operation of SOCTIIP build Alternatives and other cumulative projects would contribute to continued NO_x emissions in the region.		

Source: Mestre Greve Associates (2003).
1. The full text of all mitigation measures is provided in Section 4.7 (Affected Environment, Impacts and Mitigation Measures Related to Air Quality).

HC Hydrocarbon
CO Carbon Monoxide
No_x Nitrogen Oxide
PM_{10} Particable Matter > 10 microns
SCAQMD South Coast Air Quality Management District

Table 7.8-2A
Modeled 70-Year Average DPM Concentrations along I-5

	Distance From Edge of Roadway	DPM Concentration ($\mu g/m^3$)			
		No Project	I-5 Widening	Corridor Connects at Avenida Pico	Corridor Connects at OC/SDC Border
Inland Side	122m (400')	0.0511	0.0554	0.0559	0.0457
	30.5m (100')	0.1261	0.1370	0.1383	0.1126
	6.1m (20')	0.2022	0.2106	0.2125	0.1806
Coastal Side	6.1m (20')	0.0940	0.1029	0.1038	0.0840
	30.5m (100')	0.0490	0.0539	0.0544	0.0438
	122m (400	0.0203	0.0217	0.0219	0.0181

Source: Mestre Greve Associates (2003).

Table 7.8-2B
Residential Calculated Cancer Risk along I-5

	Distance From Edge of Roadway	Cancer Risk Per Million				Change Over No Project		
		No Project	I-5 Widening	Corridor Connects at Avenida Pico	Corridor Connects at OC/SDC Border	I-5 Widening	Corridor Connects at Avenida Pico	Corridor Connects at OC/SDC Border
Inland Side	122m (400')	15.3	16.6	16.8	13.7	1.3	1.4	-1.6
	30.5m (100')	37.8	41.1	41.5	33.8	3.3	3.7	-4.0
	6.1m (20')	60.7	63.2	63.7	54.2	2.5	3.1	-6.5
Coastal Side	6.1m (20')	28.2	30.9	31.2	25.2	2.7	3.0	-3.0
	30.5m (100')	14.7	16.2	16.3	13.1	1.4	1.6	-1.6
	122m (400')	6.1	6.5	6.6	5.4	0.4	0.5	-0.6
Significance Threshold		**n/a**	**n/a**	**n/a**	**n/a**	**10.0**	**10.0**	**10.0**

Source: Mestre Greve Associates (2003).
n/a – Significance threshold is relative to change in risk caused by the project rather than the overall risk which includes risk that occurs without the project. Therefore, the significance threshold is not applicable to the overall risk factors.

Table 7.8-2C
Residential Calculated Non-Cancer Risk along I-5

	Distance From Edge of Roadway	Hazard Index				Change Over No Project		
		No Project	I-5 Widening	Corridor Connects at Avenida Pico	Corridor Connects at OC/SDC Border	I-5 Widening	Corridor Connects at Avenida Pico	Corridor Connects at OC/SDC Border
Inland Side	122m (400')	0.010	0.011	0.011	0.009	0.001	0.001	-0.001
	30.5m (100')	0.025	0.027	0.028	0.023	0.002	0.002	-0.003
	6.1m (20')	0.040	0.042	0.042	0.036	0.002	0.002	-0.004
Coastal Side	6.1m (20')	0.019	0.021	0.021	0.017	0.002	0.002	-0.002
	30.5m (100')	0.010	0.011	0.011	0.009	0.001	0.001	-0.001
	122m (400')	0.004	0.004	0.004	0.004	0.000	0.000	0.000
Significance Threshold		**n/a**	**n/a**	**n/a**	**n/a**	**1.000**	**1.000**	**1.000**

Source: Mestre Greve Associates (2003).
n/a – Significance threshold is relative to change in Hazard Index caused by the project rather than the overall Hazard Index which includes risk that occurs without the project. Therefore, the significance threshold is not applicable to the overall Hazard Index.

Table 7.8-2D
Modeled DPM Concentrations along the Northern Extent of the Corridor Build Alternatives

	Distance From Edge of Roadway (ft)	Average DPM Concentration ($\mu g/m^3$)			
		2008-2025/Toll		2026-2078/Toll Free	
		4-Lane Corridor	8-Lane Corridor	4-Lane Corridor	8-Lane Corridor
To West	762m (2500')	0.0024	0.0025	0.0019	0.0019
	381m (1250')	0.0043	0.0047	0.0035	0.0036
	30.5m (100')	0.0239	0.0285	0.0193	0.0215
	15.2m (50')	0.0316	0.0384	0.0256	0.0290
	6.1m (20')	0.0398	0.0489	0.0322	0.0370
To East	6.1m (20')	0.0156	0.0206	0.0122	0.0155
	15.2m (50')	0.0121	0.0147	0.0095	0.0111
	30.5m (100')	0.0090	0.0106	0.0071	0.0079
	381m (1250')	0.0014	0.0015	0.0011	0.0011
	762m (2500')	0.0007	0.0007	0.0005	0.0005

Source: Mestre Greve Associates (2003).

Table 7.8-2E
70-Year Average DPM Concentrations along the Northern Extent of the Corridor Build Alternatives

	Distance From Edge of Roadway	70 Year Average DPM Concentration ($\mu g/m^3$)		
		4-Lane Corridor (Scenario 1)	4/8-Lane Corridor (Scenario 2)	8-Lane Corridor (Scenario 3)
To West	762m (2500')	0.0020	0.0020	0.0020
	381m (1250')	0.0037	0.0037	0.0038
	30.5m (100')	0.0204	0.0221	0.0232
	15.2m (50')	0.0270	0.0297	0.0313
	6.1m (20')	0.0340	0.0377	0.0399
To East	6.1m (20')	0.0131	0.0155	0.0167
	15.2m (50')	0.0102	0.0113	0.0119
	30.5m (100')	0.0075	0.0082	0.0086
	381m (1250')	0.0012	0.0012	0.0012
	762m (2500')	0.0006	0.0006	0.0006

Source: Mestre Greve Associates (2003).

Table 7.8-2F
Calculated Cancer Risks Along the Northern Extent of the Corridor Build Alternatives

	Distance From Edge of Roadway	Cancer Risk Per Million		
		4-Lane Corridor	4/8-Lane Corridor	8-Lane Corridor
To West	762m (2500')	0.6	0.6	0.6
	381m (1250')	1.1	1.1	1.2
	30.5m (100')	6.1	6.6	7.0
	15.2m (50')	8.1	8.9	9.4
	6.1m (20')	10.2	11.3	12.0
To East	6.1m (20')	3.9	4.7	5.0
	15.2m (50')	3.0	3.4	3.6
	30.5m (100')	2.3	2.5	2.6
	381m (1250')	0.4	0.4	0.4
	762m (2500')	0.2	0.2	0.2
Significance Threshold		**10.0**	**10.0**	**10.0**

Source: Mestre Greve Associates (2003).

Table 7.8-2G
Calculated Non-Cancer Risks Along the Northern Extent of the Corridor Build Alternatives

	Distance From Edge of Roadway	Hazard Index		
		4-Lane Corridor	4/8-Lane Corridor	8-Lane Corridor
To West	762m (2500')	0.0004	0.0004	0.0004
	381m (1250')	0.0007	0.0007	0.0008
	30.5m (100')	0.0041	0.0044	0.0046
	15.2m (50')	0.0054	0.0059	0.0063
	6.1m (20')	0.0068	0.0075	0.0080
To East	6.1m (20')	0.0026	0.0031	0.0033
	15.2m (50')	0.0020	0.0023	0.0024
	30.5m (100')	0.0015	0.0016	0.0017
	381m (1250')	0.0002	0.0002	0.0002
	762m (2500')	0.0001	0.0001	0.0001
Significance Threshold		**1.0000**	**1.0000**	**1.0000**

Source: Mestre Greve Associates (2003).

Table 7.11-1
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
Vegetation Community								
Venturan-Diegan Coastal Sage Scrub (2.3)	SU	SU	SU	SU	SU	SU	SU	SU
Other Scrub (2.1, 2.4, 2.7)	SU	SU	SU		SU	SU		SU
Coastal Sage Scrub/ Grassland Ecotone (2,8)	SU	SU	SU	SU	SU	SU	SU	
Chaparral/Sage Scrub Ecotone (3.1)	SU	SU	SU	SU	SU	SU	SU	
Chaparral Communities (3.2, 3.3, 3.7, 3.12)	NS	NS	NS	NS	NS	NS	NS	NS
Native Grassland (4.2, 4.3, 4.4)	SU	SU	SU	SU	SU	SU	SU	
Annual Grassland (4.1)	NS	NS	NS	NS	NS	NS	NS	
Ruderal Grassland (4.6)	NS	NS	NS	NS	NS	NS	NS	NS
Vernal Pools, Seeps, & Wet Meadows (5.0)	SM	SM	SM		SM	SM	SM	SM
Marsh Communities (6.0)	SM	SM	SM	SM		SM		SM
Riparian Herb and Mule Fat Scrub (7.1, 7.3)	SM	SM	SM	SM	SM	SM	SM	SM
Other Riparian Communities (7.2, 7.4, 7.5, 7.6, 7.7, 7.8)	SM	SM	SM	SM	SM	SM	SM	SM

Table 7.11-1 (continued)
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
Coast Live Oak Woodland (8.1)	SM	SM	SM	SM	SM	SM	SM	SM
Blue Elderberry Woodland (8.4)	SM	SM			SM	SM	SM	
Lakes, Reservoirs, & Basins (12.0)	SM	SM	SM	SM		SM		
Water Courses (13.0)	SM	SM	SM	SM	SM	SM	SM	SM
Cliff and Rock Communities (10.3)	SU	SU	SU	SU		SU		
Agriculture (14.0)	NS	NS	NS	NS	NS	NS	NS	NS
Developed, Disturbed, Graded (15.0, 16.0)	NS	NS	NS	NS	NS	NS	NS	NS
Plant Species								
Coulter's saltbush (*Atriplex coulteri*)	SU	SU	SU	SU	SU			
Thread-leaved brodiaea (*Brodiaea filifolia*)	SU	SU			SU	SU		
Catalina mariposa lily (*Calochortus catalinae*)	NS	NS	NS	NS	NS	NS		
Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*)	SU	SU	SU	SU	SU	SU		
Southern tarplant (*Centromadia* [*Hemizonia*] *parryi* ssp. *australis*)	SU	SU	SU	SU	SU	SU		

Table 7.11-1 (continued)
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
Prostrate spineflower (*Chorizanthe procumbens*)								
Many-stemmed dudleya (*Dudleya multicaulis*)	SU	SU	SU	SU	SU	SU		
Beaked spikerush (*Eleocharis rostellata*)			NS	NS				
Palmer's grapplinghook (*Harpagonella palmeri*)	SU	SU			SU	SU		
Hedge-leaved horkelia (*Horkelia cuneata* ssp. *cuneata*)								
California juniper (*Juniperus californica*)			NS	NS	NS	NS		
Small-flowered microseris (*Microseris douglasii* var. *platycarpha*)	NS							
Salt spring checkerbloom (*Sidalcea neomexicana*)					NS			
FISH								
Arroyo chub	SM	SM	SM	SM	SM	SM		
Southern steelhead trout	SM	SM				SM		
Tidewater Goby	SM	SM				SM		

Table 7.11-1 (continued)
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
REPTILES/AMPHIBIANS								
Arroyo toad	SM	SM				SM	SM	
Coastal rosy boa	NS	NS			NS			
Coastal western whiptail	NS	NS	NS	NS	NS	NS		
Coast patch-nosed snake	NS	NS			NS			
Coronado Island skink	NS	NS			NS	NS		
Orange-throated whiptail	NS	NS	NS	NS	NS	NS		
Red diamond rattlesnake	NS	NS	NS	NS	NS	NS		
San Bernardino ringneck snake	NS	NS	NS	NS	NS	NS		
San Diego banded gecko	NS	NS			NS			
San Diego horned lizard	NS	NS	NS	NS	NS	NS		
Silvery legless lizard	NS	NS						
Southwestern pond turtle	NS	NS						
Two-striped garter snake	NS	NS	NS	NS	NS	NS		
Western spadefoot toad	NS	NS			NS	NS		
BIRDS								
Common barn owl					SM	SM		
Coastal California gnatcatcher	SU	SU	SU	SU	SU	SU	SU	

Table 7.11-1 (continued)
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
Cooper's hawk	SM	SM				SM		SU
Ferruginous hawk			SM	SM				
Grasshopper sparrow	SM	SM	SM	SM	SM	SM	SM	
Great horned owl								
Least Bell's vireo			SM	SM	SM		SM	
Loggerhead shrike							SM	
Osprey								
Peregrine falcon			NS	NS				
Prairie falcon	SM	SM						
Red-shouldered hawk	SM		SM	SM				SM
Red-tailed hawk	SM	SM	SM	SM	SM	SM	SM	SM
Rufous-crowned sparrow	SM	SM	SM	SM	SM	SM		
San Diego cactus wren	SM	SM	SM	SM	SM	SM		
Sharp shinned hawk								
White-tailed kite								
Yellow-breasted chat			SM	SM			SM	
Yellow warbler								
MAMMALS								
Yuma myotis	NS	NS						
Pallid bat	NS	NS	NS	NS				

Table 7.11-1 (continued)
Summary of Impacts and Level of Significance after Mitigation Related to Wetlands and Waters of the United States, Wildlife, Fisheries, and Vegetation, and Threatened and Endangered Species

	FEC-M	FEC-W	CC	CC-ALPV	A7C-ALPV	A7C-FEC-M/ Preferred	AIO	I-5
Pocketed free-tailed bat	NS	NS	NS	NS				
Western mastiff bat	NS	NS	NS	NS	NS	NS		
Pacific pocket mouse								
OTHER								
Wetlands	SM	SM	SM	SM	SM	SM	SM	SM
Corridors	~~SM~~U	~~SM~~U	~~SM~~U	~~SM~~U	~~SM~~U	~~SM~~U	~~SM~~U	NS~~SM~~
Policies and Ordinances	NS	NS	NS	NS	NS	NS	NS	NS

Source: P&D Consultants (2003).
SU: Significant and unmitigable.
SM: Significant, can be mitigated to below a level of significance.
NS: Not significant.
A blank cell indicates that the Alternative(s) is not anticipated to impact the resource, because the resource has not been identified within the area of the specific Alternative.

Table 7.17-1
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
Far East Corridor-Modified (FEC-M) Alternative					
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1559	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1106	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-912	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-921/1127	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-914	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-915	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-916	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1452	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1175	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-363	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-362	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-22	Yes	Yes	Yes - listed	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-13,325	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1075	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-4412	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1074	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
FAR EAST CORRIDOR WEST (FEC-W) ALTERNATIVE					
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1559	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1106	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-912	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-921/1127	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-914	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-915	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-916	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-917	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-920	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1175	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-363	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-362	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-22	Yes	Yes	Yes - listed	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-13,325	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1075	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-4412	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1074	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CENTRAL CORRIDOR - COMPLETE (CC) ALTERNATIVE					
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-1447	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-997	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1042	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1043	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-882	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-26	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-700	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-781	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-780	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-779	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-907/908	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-639	Yes	No	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-504	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-599	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-22 (includes CA-SDI-4282, -4535, -8435, -11703, -11929, -13071)	Yes	Yes	Yes - listed	AR-1, AR-2, AR-3	Potentially significant.
CENTRAL CORRIDOR-AVENIDA LA PATA VARIATION (CC-ALPV) ALTERNATIVE					
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1447	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-997	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1042	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1043	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-882	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-26	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-700	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-781	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-780	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-779	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-907/908	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
ALIGNMENT 7 CORRIDOR - FAR EAST CROSSOVER - MODIFIED (A7C-FEC-M) ALTERNATIVE[2]					
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1562	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-912	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-921/1127	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-914	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-915	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-916	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-917	No	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-920	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-1175	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-363	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-362	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-22	Yes	Yes	Yes-listed	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-13,325	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1075	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-4412	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-SDI-1074	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1559	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
ALIGNMENT 7 CORRIDOR - AVENIDA LA PATA VARIATION (A7C-ALPV) ALTERNATIVE					
CA-ORA-881	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-882	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1561	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-902	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-1042	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1043	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1050	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1177	Yes	Yes	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-907/908	Yes	Yes	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1562	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1559	Yes	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1560	No	Yes	Unknown	AR-1, AR-2, AR-3	Potentially significant.
ARTERIAL IMPROVEMENTS ONLY (AIO) ALTERNATIVE					
CA-ORA-895			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-893			Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-886			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1335			Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-881			No	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1(continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives[1]

Resource #	Initial	Ultimate	NRHP Eligibility[2]	Mitigation Measures[3]	Significance after Mitigation
CA-ORA-902			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-26			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-700			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-781			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-640			No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-639			Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-638			Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1053			Unknown	AR-1, AR-2, AR-3	Potentially significant.

Table 7.17-1 (continued)
Summary of Direct Adverse Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Historic and Archaeological Resources for the SOCTIIP Alternatives

Resource #	NRHP Eligibility	Mitigation Measures	Significance after Mitigation
I-5 WIDENING ALTERNATIVE			
CA-ORA-1327	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1328	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1329	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1330	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1338 (includes CA-ORA-1035 through -1039	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1271H	Yes	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1215H	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-1107	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-837	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-838	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-903	No	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-599	Unknown	AR-1, AR-2, AR-3	Potentially significant.
CA-ORA-22 (includes CA-SDI-4282, -4535, -8435, 11703, -11929, -13071)	Yes - listed	AR-1, AR-2, AR-3	Potentially significant.
NO PROJECT ACTION ALTERNATIVES			
No resources affected.	Not applicable.	None.	Not applicable.
Potential for Cumulative Archaeological Resources Impacts			
There is a cumulative adverse impact on archaeological resources as a result of the SOCTIIP build Alternatives and other cumulative projects. Even with the implementation of mitigation measures, these impacts are not substantially mitigated, and the impact is cumulatively adverse. Therefore, SOCTIIP build Alternatives contribute to a cumulative adverse impact related to historic and archaeological resources. The No Action Alternatives have no cumulative impacts on historic and archaeological resources because no action would be taken that would contribute either individually or cumulatively to the loss of these resources in the study area.			

Source: Greenwood and Associates (2003).
[1] This table contains site information that is outdated. Please refer to Tables 7.17-1A and 4.16-1 for current data as it pertains to the Preferred Alternative.
[2] National Register of Historic Places.
[3] The full text of the mitigation measures is provided in Section 4.16 (Affected Environment, Impacts and Mitigation Measures Related to Historic and Archaeological Resources) in the EIS/SEIR.

Table 7.17-1A
Summary of Direct Adverse Impacts, Mitigation Measures, and CEQA Level of Significance after Mitigation for Archeological Resources for the SOCTIIP Preferred Alternative

Resource #	Initial	Ultimate	NRHP Eligibility[1]	Mitigation Measures[2]	Significance after Mitigation
CA-ORA-0362	Yes	Yes	Unknown	AR-1, AR-2, AR-3	None
CA-ORA-0363	Yes	Yes	Not eligible	AR-1, AR-2, AR-3	None
CA-ORA-0653	Yes	Yes	Not eligible	AR-3	None
CA-ORA-0657	Yes	Yes	Not eligible	AR-3	None
CA-ORA-0912	Yes	Yes	Eligible (considered a part of ORA-921/1127)	AR-1, AR-2, AR-3	None
CA-ORA-0913	Yes	Yes	Not eligible (destroyed)	AR-1, AR-2, AR-3	None
CA-ORA-0914	Yes	Yes	Not eligible (destroyed)	AR-1, AR-2, AR-3	None
CA-ORA-0915	Yes	Yes	Not eligible (destroyed)	AR-1, AR-2, AR-3	None
CA-ORA-0916	Yes	Yes	Not eligible	AR-1, AR-2, AR-3	None
CA-ORA-0917	No	Yes	Unknown	AR-1, AR-2, AR-3	None
CA-ORA-1028	Yes	Yes	Unknown	AR-1, AR-2, AR-3	None
CA-ORA-1106	Yes	Yes	Unknown	AR-1, AR-2, AR-3	None
CA-ORA-1559	Yes	Yes	Eligible	AR-2, AR-3	None
CA-ORA-1560	Yes	Yes	Eligible	AR-2, AR-3	None
CA-ORA-921/1127	Yes	Yes	Eligible	AR-1, AR-2, AR-3	None
SMAD (includes CA-ORA-22, CA-SDI-13,071, -4282, -4535, -8435, -11703, and -11929)	Yes	Yes	Eligible	AR-2, AR-3, AR-4	Potentially significant.
CA-SDI-1074 (considered part of SMAD)	Yes	Yes	Eligible	AR-1, AR-2, AR-3. AR-4	Potentially significant.
CA-SDI-1075 (considered part of SMAD)	Yes	Yes	Eligible	AR-1, AR-2, AR-3, AR-4	Potentially significant.

Table 7.17-1A (continued)
Summary of Direct Adverse Impacts, Mitigation Measures, and CEQA Level of Significance after Mitigation for Archeological Resources for the SOCTIIP Preferred Alternative

Resource #	Initial	Ultimate	NRHP Eligibility[1]	Mitigation Measures[2]	Significance after Mitigation
CA-SDI-13324 (considered part of SMAD)	Yes	Yes	Eligible	AR-1, AR-2, AR-3, AR-4	Potentially significant.
CA-SDI-13325 (considered part of SMAD)	Yes	Yes	Eligible	AR-1, AR-2, AR-3, AR-4	Potentially significant.
CA-SDI-17544 (considered part of SMAD)	Yes	Yes	Eligible	AR-1, AR-2, AR-3, AR-4	Potentially significant.

[1] Includes all sites where a researcher has made statements about the eligibility, significance, or importance of a site. The NRHP eligibility status provided here has not been reviewed by the OHP.

[2] The full text of the mitigation measures is provided in Section 4.16 (Affected Environment, Impacts, and Mitigation Measures related to Historic and Archaeological Resources) in the EIS/SEIR.

Table 7.17-2
Summary of Potential Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Archaeological Resources for the SOCTIIP Alternatives

	NRHP[1] Listed	NRHP Eligible and Not Evaluated	Evaluated Not Eligible	Destroyed	Total Recorded Resources	Mitigation Measures[2]	Significance after Mitigation
FEC W-I	1	11	6	1	19	AR-1, AR-2, AR-3	Potentially significant.
FEC W-U	1	11	6	1	19	AR-1, AR-2, AR-3	Potentially significant.
FEC M-I	1	10	6	1	18	AR-1, AR-2, AR-3	Potentially significant.
FEC M-U	1	10	6	1	18	AR-1, AR-2, AR-3	Potentially significant.
CC-I	1	7	7	2	17	AR-1, AR-2, AR-3	Potentially significant.
CC-U	1	7	7	1	16	AR-1, AR-2, AR-3	Potentially significant.
CC-ALPV-I	-	6	7	-	13	AR-1, AR-2, AR-3	Potentially significant.
CC-ALPV-U	-	6	7	-	13	AR-1, AR-2, AR-3	Potentially significant.
A7C-ALPV-I	-	6	6	-	12	AR-1, AR-2, AR-3	Potentially significant.
A7C-ALPV-U	-	6	6	-	12	AR-1, AR-2, AR-3	Potentially significant.
A7C-FEC M-I	1	11	5	1	18	AR-1, AR-2, AR-3	Potentially significant.
A7C-FEC M-U	1	12	5	1	19	AR-1, AR-2, AR-3	Potentially significant.
AIO	-	2	7	4	13	AR-1, AR-2, AR-3	Potentially significant.
I-5	2	8	-	3	13	AR-1, AR-2, AR-3	Potentially significant.
No Action Alternatives	0	0	0	0	0	None	No Impacts
Potential for Cumulative Archaeological Resources Impacts							

Source: Greenwood and Associates (2003).
Key: I = Initial
U = Ultimate
[1] National Register of Historic Places.
[2] The full text of the mitigation measures is provided in Section 4.16 (Affected Environment, Impacts and Mitigation Measures Related to Historic and Archaeological Resources) in the EIS/SEIR.
Note: This table from the Draft EIS/SEIR contains information that has been updated and is more complete in Table 7.17-1A.

Table 7.17-3
Summary of Potential Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Historic Resources for the SOCTIIP Alternatives

Alternative	Total Recorded Resources	Recorded Sites per Mile	NRHP[1] Listed or Eligible	NRHP Appears Eligible	State or Local Desig.	ASHR[2]	Mitigation Measures[3]	Significance after Mitigation
FEC-M	0	0	0	0	0	1	HR-5	Potentially significant.
FEC-W	0	0	0	0	0	1	HR-5	Potentially significant.
CC	8	0.62	1	7	0	6	HR-5	Potentially significant.
CC-ALPV	0	0	0	0	0	0	HR-5	Potentially significant.
A7C-FEC-M	0	0	0	0	0	1	HR-5	Potentially significant.
A7C-ALPV	0	0	0	0	0	0	HR-5	Potentially significant.
AIO	0	--	0	0	0	0	HR-5	Potentially significant.
I-5 Widening	12	--	1	7	4	10	HR-5	Potentially significant.
No Action Alternatives	0	0	0	0	0	0	None.	No impacts.
Potential for Cumulative Historic Resources Impacts								
There is a cumulative adverse impact on historic resources as a result of the SOCTIIP build Alternatives and other cumulative projects. Even with the implementation of mitigation measures, these impacts are not substantially mitigated, and the impact is cumulatively adverse. Therefore, SOCTIIP build Alternatives contribute to a cumulative adverse impact related to historic resources. The No Action Alternatives have no cumulative impacts on historic resources because no action would be taken that would contribute either individually or cumulatively to the loss of these resources in the study area.								

Source: Greenwood and Associates (2003).
[1] National Register of Historic Places.
[2] Areas of Sensitivity for Historical Resources.
[3] The full text of the mitigation measures is provided in Section 4.16 (Affected Environment, Impacts and Mitigation Measures Related to Historic and Archaeological Resources) in the EIS/SEIR.

Table 7.18-1
Summary of Impacts, Mitigation Measures and CEQA Level of Significance
Related to Hazardous Materials and Hazardous Waste Sites

Summary of Impacts	Mitigation Measures[1]	CEQA Level of Significance after Mitigation
FAR EAST CORRIDOR-MODIFIED ALTERNATIVE		
Potential construction impacts related to military sites (USTs, other releases).	HM-1, HM-13, HM-14	Below a level of significance.
Potential construction impacts related to past pesticide and herbicide use on agricultural lands.	HM-3, HM-1	Below a level of significance.
Potential for hazardous materials associated with TRW, existing utilities, a waster water treatment facility potential for asbestos in existing structures and a petroleum pipeline.	HM-8, HM-15, HM-16	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7, HM-12, HM-15	Below a level of significance.
FAR EAST CORRIDOR WEST ALTERNATIVE		
Potential construction impacts related to military sites (USTs, other releases).	HM-1, HM-13, HM-14	Below a level of significance.
Potential construction impacts related to past pesticide and herbicide use on agricultural lands.	HM-3, HM-1	Below a level of significance.
Potential for hazardous materials associated with TRW, existing utilities, a waster water treatment facility potential for asbestos in existing structures and a petroleum pipeline.	HM-8, HM-15, HM-16	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7, HM-12, HM-15	Below a level of significance.

Table 7.18-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance
Related to Hazardous Materials and Hazardous Waste Sites

Summary of Impacts	Mitigation Measures[1]	CEQA Level of Significance after Mitigation
CENTRAL CORRIDOR-COMPLETE ALTERNATIVE		
Potential construction impacts related to existing LUST sites along I-5.	HM-1, HM-10	Below a level of significance.
Potential construction impacts related to Prima Deshecha Sanitary Landfill.	HM-11	Below a level of significance.
Potential construction impacts related to land uses with existing USTs.	HM-1, HM-10	Below a level of significance.
Potential for hazardous materials associated with existing automobile service stations, dry cleaners and utilities.	HM-8	Below a level of significance.
Potential impacts during construction related to past pesticide and herbicide use on agricultural lands.	HM-3	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Potential for the presence of hazardous materials in existing road structures.	HM-6	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7	Below a level of significance.
CENTRAL CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE		
Potential construction impacts related to Prima Deshecha Sanitary Landfill.	HM-11	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7	Below a level of significance.
Potential construction impacts related to past pesticide and herbicide use on agricultural lands.	HM-3	Below a level of significance.

Table 7.18-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance
Related to Hazardous Materials and Hazardous Waste Sites

Summary of Impacts	Mitigation Measures[1]	CEQA Level of Significance after Mitigation
ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED (PREFERRED) ALTERNATIVE		
Potential construction impacts related to military sites (USTs, other releases).	HM-1, HM-13, HM-14	Below a level of significance.
Potential construction impacts related to past pesticide and herbicide use on agricultural lands.	HM-3, HM-1	Below a level of significance.
Potential for hazardous materials associated with TRW, existing utilities, a waster water treatment facility potential for asbestos in existing structures and a petroleum pipeline.	HM-8, HM-16	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7, HM-12, HM-15	Below a level of significance.
ALIGNMENT 7 CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE		
Potential for hazardous materials associated with existing utilities and a petroleum pipeline.	HM-8, HM-16	Below a level of significance.
Potential construction impacts related to Prima Deshecha Landfill.	HM-11	Below a level of significance.
Potential construction impacts related to past pesticide and herbicide use on agricultural lands.	HM-1, HM-3, HM-10	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7	Below a level of significance.
ARTERIAL IMPROVEMENTS ONLY ALTERNATIVE		
Potential construction impacts related to past pesticide and herbicide	HM-1, HM-3, HM-10	Below a level of significance.

Table 7.18-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance
Related to Hazardous Materials and Hazardous Waste Sites

Summary of Impacts	Mitigation Measures[1]	CEQA Level of Significance after Mitigation
use on agricultural lands.		
Potential construction impacts related to Prima Deshecha Sanitary Landfill.	HM-11	Below a level of significance.
Potential for previously undocumented abandoned oil wells or test borings.	HM-4	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7	Below a level of significance.
I-5 WIDENING ALTERNATIVE		
Potential construction impacts related to existing LUST sites.	HM-1, HM-10	Below a level of significance.
Potential construction impacts related to land uses with existing USTs.	HM-1, HM-10	Below a level of significance.
Potential for hazardous materials associated with existing automobile service facilities, dry cleaners, a waste water treatment facility, electrical substations and utilities.	HM-8, HM-12, HM-17	Below a level of significance.
Potential for asbestos in existing structures.	HM-5	Below a level of significance.
Potential for aerially deposited lead along existing roads.	HM-2	Below a level of significance.
Potential for the presence of hazardous materials in existing road structures.	HM-6	Below a level of significance.
Construction related hazards including accidental releases, fuel spills, use of hazardous materials, on site use and storage of hazardous wastes and materials, previously undocumented hazardous contamination discovery.	HM-7	Below a level of significance.

Table 7.18-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance
Related to Hazardous Materials and Hazardous Waste Sites

Summary of Impacts	Mitigation Measures[1]	CEQA Level of Significance after Mitigation
NO ACTION ALTERNATIVES – OCP 2000 AND RMV DEVELOPMENT		
No impacts.	None required.	No impacts.
Potential for Cumulative Hazardous Materials and Wastes Impacts		
Because the SOCTIIP build Alternatives and the other cumulative projects will likely not all be under construction simultaneously and because of existing regulations, the SOCTIIP build Alternatives, when considered with these other projects, will not result in a cumulative short term adverse impact related to hazardous materials.		

Source: P&D Consultants (2003).
[1] The full text of the mitigation measures is provided in Section 4.17 (Affected Environment, Impacts and Mitigation measures Related to Hazardous Materials and Hazardous Waste Sites) in the EIS/SEIR.

Table 7.19-1
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
FEC-M Alternative			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive views. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Less than significant.
AU1-4 (Refer to Figures 4.18-12 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU29 (Refer to Figures 4.18-43, 4.18-44 and 4.18-45)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in Coto de Caza.	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for users of Caspers Park (sensitive viewers).	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for users of Riley Park (sensitive viewers).	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of the regionally outstanding view from Caspers Park.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	No impact.	Not applicable.	Not applicable.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
AU34 (Refer to Figures 4.18-62 and 4.18-63)			
Visual Quality	Change in visual quality for motorists (sensitive viewers) on Ortega Highway.	Not adverse. Less than significant.	Less than significant.
	Change in visual quality for residents (sensitive viewers) in RMV west of the alignment.	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for residents (sensitive viewers) in RMV east of the alignment.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with County of Orange policies regarding oak trees.	Substantially adverse. Significant.	Significant.
AU35 (Refer to Figures 4.18-64 and 4.18-65)			
Visual Quality	Reduction in visual quality for visitors to the Donna O'Neill Land Conservancy.	Substantially adverse. Significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable	Not applicable
Community Character	Conflict with policies of the Donna O'Neill Land Conservancy regarding the preservation of scenic resources.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.
AU32 (Refer to Figures 4.18-51 and 4.18-52)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) on the east part of the Talega PC.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents adjacent to a soundwall on the east edge of the Talega PC.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU33 (Refer to Figures 4.18-53 to 4.18-61)			
Visual Quality	Reduction in visual quality for users of San Onofre State Beach, Cristianitos Subunit (sensitive viewers), especially	Substantially adverse. Significant.	Significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	viewers from San Mateo Campground.		
	Reduction in visual quality for residents (sensitive viewers) in the San Onofre 1 Housing of Camp Pendleton.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality from marine training areas. No adverse impact on ability of MCB Camp Pendleton to train marines.	No adverse impact on ability of MCB Camp Pendleton to train marines. Less than significant.	Less than significant.
	Reduction in visual quality from ocean and land view points for users of San Onofre State Beach, Trestles and Cristianitos Subunits (sensitive viewers).	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents (sensitive viewers) of San Mateo Point Housing of Camp Pendleton.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with policies of San Onofre State Beach regarding blockage of views of the ocean.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of San Diego related to scenic highways.	Substantially adverse. Significant.	Significant.
FEC-W Alternative			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Less than significant.
AU1-4 (Refer to Figures 4.18-12 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU29 (Refer to Figures 4.18-43, 4.18-44 and 4.18-45)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in Coto de Caza.	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for users of Caspers Park (sensitive viewers).	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for users of Riley Park (sensitive viewers).	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of the regionally outstanding view from Caspers Park.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	No impact.	Not applicable.	Not applicable.
AU30 (Refer to Figures 4.18-46 and 4.18-47)			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents in RMV.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of regionally outstanding view.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.
AU31-1 (Refer to Figures 4.18-48 and 4.18-50)			
Visual Quality	Reduction in visual quality for visitors to Donna O'Neill Land Conservancy (sensitive viewers).	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	**No impact on regionally outstanding views.**	Not applicable.	Not applicable.
Community Character	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	Conflict with policies of the Donna O'Neill Land Conservancy regarding the preservation of scenic resources.	Substantially adverse. Significant.	Significant.
AU32 (Refer to Figures 4.18-51 and 4.18-52)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) on the east part of the Talega PC.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents adjacent to a soundwall on the east edge of the Talega PC.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU33 (Refer to Figures 4.18-53 to 4.18-61)			
Visual Quality	Reduction in visual quality for users of San Onofre State Beach, Cristianitos Subunit (sensitive viewers), especially viewers from San Mateo Campground.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for residents (sensitive viewers) in the San Onofre 1 Housing of Camp Pendleton.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality from marine training areas.	No adverse impact on ability of MCB Camp Pendleton to train marines.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality from ocean and land view points for users of San Onofre State Beach, Trestles and Cristianitos Subunits (sensitive viewers).	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents (sensitive viewers) of San Mateo Point Housing of Camp Pendleton.	Substantially adverse. Significant.	Significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with policies of San Onofre State Beach regarding blockage of views of the ocean.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of San Diego related to scenic highways.	Substantially adverse. Significant.	Significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
CC ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Not applicable.
AU1-2 (Refer to Figures 4.18-10 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU12 (Refer to Figures 4.18-17 to 4.18-20)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in the Mandalay and Pacific Crest developments.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents (sensitive viewers) to the south and east of the San Clemente High School campus, east of I-5 and on residents in the east part of the Marblehead Inland Community.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for motorists on I-5 (sensitive viewers).	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with policies of the City of San Clemente related to scenic corridors and aesthetic resources, specifically hillsides.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of Orange related to	Substantially adverse. Significant.	Significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	scenic highways.		
	Physical division of the City of San Clemente.	Substantially adverse. Significant.	Significant.
AU13 (Refer to Figures 4.18-21 and 4.18-22)			
Visual Quality	Changes in the views of residents (sensitive viewers) in San Clemente.	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Not adverse. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU17 (Refer to Figures 4.81-23 and 4.18-24)			
Visual Quality	Reduction in visual quality for non-sensitive viewers.	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU18-1 (Refer to Figrues 4.18-25, 4.18-26 and 4.18-27)			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality of views from the historic O'Neill residence.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of regionally outstanding view.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	Conflict with policies of the County of Orange related to scenic highways.	Substantially adverse. Significant.	Significant.
AU19 (Refer to Figures 4.18-28 and 4.18-29)			
Visual Quality	Reduction in visual quality for residents in San Juan Capistrano west of Avenida La Pata.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No Impact.	Not applicable.	Not applicable.
Community Character	No Impact.	Not applicable.	Not applicable.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
AU20 (Refer to Figures 4.18-28 and 4.18-30)			
Visual Quality	Changes in views of non-sensitive viewers.	Not adverse. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU21-1 (Refer to Figures 4.18-31 and 4.18-33)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in the west part of the Talega development.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Physical division of the Talega community from the rest of the City of San Clemente.	Substantially adverse. Significant.	Significant.
CC-ALPV ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Less than significant.
AU1-2 (Refer to Figures 4.18-10 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU17 (Refer to Figures 4.18-23 and 4.18-24)			
Visual Quality	Reduction in visual quality for viewers from the Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU18-1 (Refer to Figures 4.18-25, 4.18-26 and 4.18-27)			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from the Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality of views from the historic O'Neill residence.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of regionally outstanding view.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	Conflict with policies of the County of Orange related to scenic highways.	Substantially adverse. Significant.	Significant.
AU19 (Refer to Figures 4.18-28 and 4.18-29)			
Visual Quality	Reduction in visual quality for residents in San Juan Capistrano west of Avenida La Pata.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No Impact.	Not applicable.	Not applicable.
Community Character	No Impact.	Not applicable.	Not applicable.
AU20 (Refer to Figures 4.18-28 and 4.18-30)			
Visual Quality	Changes in views of non-sensitive viewers.	Not adverse. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU21-2 (Refer to Figure 4.18-32)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in the west part of the Talega PC.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
Community Character	Physical division of the Talega community from the rest of the City of San Clemente.	Substantially adverse. Significant.	Significant.
A7C-FEC-M/PREFERRED ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Less than significant.
AU1-5 (Refer to Figures 4.18-13 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU36 (Refer to Figures 4.18-66 and 4.18-67)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in Coto de Caza.	Not adverse. Less than significant.	Less than significant.
	Minor reduction in visual quality for users of Caspers Park (sensitive viewers).	Not adverse. Less than significant.	Less than significant.
	Minor reduction in visual quality for users of Riley Park (sensitive viewers).	Not adverse. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Minor reduction in view quality of the regionally outstanding view from Caspers Park.	Not adverse. Less than significant.	Less than significant.
	Reduction in view quality of regionally outstanding view E, south of Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	No impact.	Not applicable.	Not applicable.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
AU37 (Refer to Figures 4.18-68, 4.18-69 and 4.18-70)			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Ortega Highway.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for residents in RMV.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality of views from the historic O'Neill residence.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of regionally outstanding view C from Ortega Highway.	Substantially adverse. Significant.	Significant.
	Minor reduction in view quality of regional outstanding view D from Ortega Highway.	Not adverse. Less than significant.	Less than significant.
	Reduction in view quality of regionally outstanding view B, from north of Ortega Highway, and regionally outstanding view E, from south of Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
Community Character	Conflict with County of Orange policies regarding scenic highways.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.
AU31-2 (Refer to Figures 4.18-49 and 4.18-50)			
Visual Quality	Reduction in visual quality for visitors to Donna O'Neill Land Conservancy (sensitive viewers).	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the Donna O'Neill land Conservancy regarding the preservation of scenic resources.	Substantially adverse. Significant.	Significant.
AU32 (Refer to Figures 4.18-51 and 4.18-52)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers)	Adverse but less than substantial. Less	Less than significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	on the east part of the Talega PC.	than significant.	
	Reduction in visual quality for residents adjacent to a soundwall on the east edge of the Talega PC.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU33 (Refer to Figures 4.18-53 to 4.18-61)			
Visual Quality	Reduction in visual quality for users of San Onofre State Beach, Cristianitos Subunit (sensitive viewers), especially viewers from San Mateo Campground.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for residents (sensitive viewers) in the San Onofre 1 Housing of Camp Pendleton.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality from marine training areas.	No adverse impact on ability of MCB Camp Pendleton to train marines. Less than significant.	Less than significant.
	Reduction in visual quality from ocean and land view points for users of San Onofre State Beach, Trestles and Cristianitos Subunits (sensitive viewers).	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for residents (sensitive viewers) of San Mateo Point Housing of Camp Pendleton.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Conflict with policies of San Onofre State Beach regarding blockage of views of the ocean.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of San Diego related to scenic highways.	Substantially adverse. Significant.	Significant.
A7C-ALPV ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles,	Adverse for sensitive viewers. However, these impacts are considered adverse but	Less than significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	machinery and construction materials.	less than substantial because they are short term during the construction phase of the project only. Less than significant.	
AU1-3 (Refer to Figures 4.18-11 and 4.18-14)[3]			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Oso Parkway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for viewers from Ladera Ranch Land Conservancy.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU11-3 (Refer to Figures 4.18-15 and 4.18-16)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in the Talega PC.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Elimination of a large part of the Talega Golf Club that is the recreational centerpiece of the community	Substantially adverse. Significant.	Significant.
	Physical division of the developed and to be developed areas of the Talega community.	Substantially adverse. Significant.	Significant.
AU22 (Refer to Figures 4.18-34 and 4.18-35)			
Visual Quality	Reduction in visual quality for viewers from the Ladera Ranch Land Conservancy.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU23-1 (Refer to Figures 4.18-36, 4.18-37, 4.18-38 and 4.18-39)			
Visual Quality	Reduction in visual quality for motorists (sensitive viewers) on Ortega Highway.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for residents in RMV.	Adverse but less than substantial. Less	Less than significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
		than significant.	
	Reduction in visual quality of views from the historic O'Neill residence.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for viewers from the Ladera Ranch Land Conservancy.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers. .	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	Reduction in view quality of regionally outstanding views C and D from Ortega Highway.	Substantially adverse. Significant.	Significant.
	Reduction in view quality of regionally outstanding view B, from north of Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in view quality of regionally outstanding view E, from south of Ortega Highway.	Adverse but less than substantial. Less than significant.	Less than significant. Positive impact because motorists on the toll road would have access to this view which is currently on private property.
Community Character	Conflict with policies of the County of Orange related to scenic highways.	Substantially adverse. Significant.	Significant.
	Conflict with policies of the County of Orange related to oak trees.	Substantially adverse. Significant.	Significant.
AU24 (Refer to Figures 4.18-40 and 4.18-41)			
Visual Quality	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	No impact.	Not applicable.	Not applicable.
AU25 (Refer to Figures 4.18-40 and 4.18-42)			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) in the Talega PC.	Adverse but less than substantial. Less than significant.	Less than significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact on regionally outstanding views.	Not applicable.	Not applicable.
Community Character	Elimination of a large part of the Talega Golf Club that is the recreational centerpiece of the community	Substantially adverse. Significant.	Significant.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
	Physical division of the developed and to be developed areas of the Talega community.	Substantially adverse. Significant.	Significant.
AIO ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Not applicable.
AU38 (Refer to Figures 4.18-71 and 4.18-72)[3]			
Visual Quality	Reduction in visual quality for residents (sensitive viewers) near Antonio Parkway and Crown Valley.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for residents (sensitive viewers) near Avenida La Pata and Avenida Pico.	Substantially adverse. Significant.	Significant.
	Reduction in visual quality for non-sensitive viewers.	Adverse but less than substantial. Less than significant.	Less than significant.
View Quality	No impact.	Not applicable.	Not applicable.
Community Character	Conflict with policies of the County of Orange related to scenic highways.	Substantially adverse. Significant.	Significant.
I-5 ALTERNATIVE			
All Assessment Units			
Light and Glare	Increased light and glare in all assessment units.	Substantially adverse. Significant.	Less than significant.
Construction	Short term reduction in visual quality due to vegetation removal, grading, cut/fill and presence of vehicles, machinery and construction materials.	Adverse for sensitive viewers. However, these impacts are considered adverse but less than substantial because they are short term during the construction phase of the project only. Less than significant.	Less than significant.
AU40 (Refer to Figures 4.18-73 and 4.18-74)[3]			
Visual Quality	Reduction in visual quality for residents along the alignment related to soundwalls.	Substantially adverse. Significant.	Significant.
View Quality	No impact.	Not applicable.	Not applicable.
Community Character	No Impact.	Not applicable.	Not applicable.

Table 7.19-1 (continued)
Summary of Short- and Long-Term Impacts by Assessment Unit before Mitigation and CEQA Level of Significance after Mitigation Related to Visual Resources

Summary of Short- and Long-Term Impacts[1]		Significance of Impact before Mitigation	Significance of Impact after Mitigation[2]
NO ACTION ALTERNATIVES			
All Assessment Units			
Light and Glare	No impact.	Not applicable.	Not applicable.
Construction	No impact.	Not applicable.	Not applicable.
Visual Quality	No impact.	Not applicable.	Not applicable.
View Quality	No impact.	Not applicable.	Not applicable.
Community Character	No Impact.	Not applicable.	Not applicable.
Potential for Cumulative Visual Resources Impacts			
The urbanizing elements of the SOCTIIP build Alternatives in rural areas include the toll or arterial road surfaces, connector ramps and toll plazas. The corridor and AIO Alternatives would, together with other projects in the area, contribute to changing the existing visual character of the rural areas crossed by the Alternatives to a more urban visual character. Therefore, the SOCTIIP build Alternatives, with the exception of the I-5 Alternative, when considered with other cumulative projects in the area, are anticipated to contribute to a cumulative long term adverse impact related to visual resources in the study area.			

Source: P&D Consultants (2003).

[1] Construction impacts are short term and all other impacts are long term.

[2] The full text of the mitigation measures is provided in Section 4.18 (Mitigation Measures Related to Visual Resources). Mitigation measures AS-1 and AS-2 apply to all impacts except light and glare and construction impacts. Mitigation measures AS-3 and AS-4 apply to light and glare impacts.

[3] Figures are provided in Section 4.18.

Table 7.21-1
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
FEC-M Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of waste material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
FEC-W Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of waste material.	PS-13 and PS13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
CC Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of excavated material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G-1, G-2, G-3 and G-4.	Less than significant.
Extraction of Groundwater, Gas, Oil, and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
CC-ALPV Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of excavated material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil, and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
A7C-FEC-M/Preferred Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of waste materials.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
A7C-ALPV Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Significant.
Disposal of Excavated Material: Increased disposal of waste material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
AIO Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of excavated material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil, and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
I-5 Alternative		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: Temporary lowering of groundwater levels.	G1, G2, G3, G4 and G5.	Less than significant.
Disposal of Excavated Material: Increased disposal of excavated material.	PS-13 and PS-13A.	Less than significant.
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: Reduce natural ground surface.	G1, G2, G3, G4 and G5.	Less than significant.
Extraction of Groundwater, Gas, Oil, and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
No Project Alternatives-OCP-2000 and RMV		
Fault Movement: No impact.	None.	Not applicable.
Liquefaction: No impact.	None.	Not applicable.
Landslides: No impact.	None.	Not applicable.
Differential Compaction/Seismic Settlement: No impact.	None.	Not applicable.
Ground Rupture: No impact.	None.	Not applicable.
Ground Shaking: No impact.	None.	Not applicable.
Tsunami: No impact.	None.	Not applicable.

Table 7.21-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Earth Resources

Impact	Mitigation Measure[1]	CEQA Significance after Mitigation
Seiches: No impact.	None.	Not applicable.
Flooding: No impact.	None.	Not applicable.
Change in Groundwater Levels: No impact.	None.	Not applicable.
Disposal of Excavated Material: No impact.	None.	Not applicable
Percolation of Waste Material: No impact.	None.	Not applicable.
Landslides and Mudflows: No impact.	None.	Not applicable.
Unstable Cut and Fill Slopes: No impact.	None.	Not applicable.
Collapsible and Expansive Soils: No impact.	None.	Not applicable.
Trench Wall Stability: No impact.	None.	Not applicable.
Erosion of Graded Areas: No impact.	None.	Not applicable.
Alteration of Runoff: No impact.	None.	Not applicable.
Unprotected Drainage Ways: No impact.	None.	Not applicable.
Increased Impervious Surfaces: No impact.	None.	Not applicable.
Extraction of Groundwater, Gas, Oil, and Geothermal Energy: No impact.	None.	Not applicable.
Hydrocompaction and Peat Oxidation: No impact.	None.	Not applicable.
Lava Flow: No impact.	None.	Not applicable.
Ash Fall: No impact.	None.	Not applicable.
Potential for Cumulative Earth Resources Impacts		
The SOCTIIP build Alternatives and other cumulative projects have similar impacts related soils and geotechnical conditions. These impacts would be substantially mitigated or avoided for the SOCTIIP and other projects through project mitigation measures and standard design and construction practices. Therefore, because the impacts of the SOCTIIP build Alternatives and other cumulative projects on earth resources would be substantially mitigated or avoided, no cumulative impacts are anticipated.		

Source: GeoPentech (2003).
[1] The full text of the mitigation measures is provided in Section 4.20 (Affected Environment, Impacts and Mitigation Measures Related to Earth Resources).

Table 7.22-1
Summary of Adverse Impacts, Mitigation Measures and CEQA Level of Significance Related to Military Impacts

Summary of Impacts		Mitigation Measures[1]	CEQA Level of Significance Before Mitigation	CEQA Level of Significance After Mitigation
FEC-W, FEC-M and A7C-FEC-M/Preferred Alternative				
Special Use Airspace	Short term: Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance.
	Long term: No adverse impacts.	No mitigation required.	--	--
Aviation Training Activities	Short term: Construction activities and lighting cause some degradation of low level night flight and night goggle vision training. Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance.
	Long term: Increased lighting from roadway and vehicles cause some degradation of low level night flight and night goggle vision training. Adverse.	M-4	Significant.	Below a level of significance.
Ground and Amphibious Training	Short term: Construction activities interfere with potential future training routes. These Alternatives will result in the following losses of land available for training during construction. Adverse. 198.3 ha (489.9 ac) - FEC-W-Initial 206.1 ha (509.2 ac) - FEC-W-Ultimate 198.3 ha (489.9 ac) - FEC-M-Initial 206.1 ha (509.2 ac) - FEC-M-Ultimate 198.3 ha (489.9 ac) - A7C-FEC-M-Initial 206.1 ha (509.2 ac) - A7C-FEC-M-Ultimate	M-2	Significant.	Below a level of significance.

Table 7.22-1 (continued
Summary of Adverse Impacts, Mitigation Measures and CEQA Level of Significance Related to Military Impacts

Summary of Impacts		Mitigation Measures[1]	CEQA Level of Significance Before Mitigation	CEQA Level of Significance After Mitigation
	Long term: Permanent loss of land available for training. Adverse. 332.5 ha (821.6 ac) - FEC-W-Initial 335.7 ha (829.6 ac) - FEC-W-Ultimate 332.5 ha (821.7 ac) - FEC-M-Initial 335.4 ha (828.9 ac) - FEC-M-Ultimate 332.5 ha (821.7 ac) - A7C-FEC-M-Initial 335.7 ha (829.6 ac) - A7C-FEC-M-Ultimate	M-5	Significant.	Significant.
Land Use	Short term: Loss of land available for training during construction. Adverse. 198.3 ha (489.9 ac) - FEC-W-Initial 206.1 ha (509.2 ac) - FEC-W-Ultimate 198.3 ha (489.9 ac) - FEC-M-Initial 206.1 ha (509.2 ac) - FEC-M-Ultimate 198.3 ha (489.9 ac) - A7C-FEC-M-Initial 206.1 ha (509.2 ac) - A7C-FEC-M-Ultimate	No mitigation identified.	Significant.	Significant.
	Long term: Loss of land available for training or other potential military uses. Adverse. 332.5 ha (821.6 ac) - FEC-W-Initial 335.7 ha (829.6 ac) - FEC-W-Ultimate 332.5 ha (821.7 ac) - FEC-M-Initial 335.4 ha (828.9 ac) - FEC-M-Ultimate 332.5 ha (821.7 ac) - A7C-FEC-M-Initial 335.7 ha (829.6 ac) - A7C-FEC-M-	M-5	Significant.	Significant.

Table 7.22-1 (continued
Summary of Adverse Impacts, Mitigation Measures and CEQA Level of Significance Related to Military Impacts

Summary of Impacts		Mitigation Measures[1]	CEQA Level of Significance Before Mitigation	CEQA Level of Significance After Mitigation
	Ultimate			
Security	Short term: Increased potential for unauthorized access to Base. Adverse.	M-3	Significant.	Below a level of significance.
	Long term: Increased potential for unauthorized access to Base. Adverse.	M-6	Significant.	Below a level of significance.
CC ALTERNATIVE				
Special Use Airspace	Short term: Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance.
Aviation Training Activities	Long term: No impacts.	No mitigation required.	--	--
	Short term: Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance
	Long term: No impacts.	No mitigation required.	--	--
Ground and Amphibious Training	Short and long term: No adverse impacts.	No mitigation required.	--	--
Land Use	Short and long term: No adverse impacts.	No mitigation required.	--	--
Security	Short term: Increased potential for unauthorized access to the Base.	M-3	Significant.	Below a level of significance.
	Long term: No impact.	No mitigation required.	--	--

Table 7.22-1 (continued
Summary of Adverse Impacts, Mitigation Measures and CEQA Level of Significance Related to Military Impacts

Summary of Impacts		Mitigation Measures[1]	CEQA Level of Significance Before Mitigation	CEQA Level of Significance After Mitigation
I-5 ALTERNATIVE				
Special Use Airspace	Short term: Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance.
	Long term: No impacts.	No mitigation required.	--	Below a level of significance.
Aviation Training Activities	Short term: Potential impact associated with cranes extended to a height of 12.2 meters (40 feet) or more during nighttime hours. Adverse.	M-1	Significant.	Below a level of significance.
	Long term: No impacts.	No mitigation required.	--	--
Ground and Amphibious Training	Short and long term: Permanent loss of 2.4 hectares (5.9 acres) of land for the I-5 Alternative immediately adjacent to I-5. Loss of land available for training. Not adverse.	No mitigation identified.	Not significant.	Below a level of significance.
Land Use	Short and long term: Permanent loss of 2.4 hectares (5.9 acres) of land for the I-5 Alternative immediately adjacent to I-5. Loss of land available for training. Not adverse.	No mitigation identified.	Not significant.	Below a level of significance.
Security	Short term: Increased potential for unauthorized access to Base. Adverse.	M-3	Significant.	Below a level of significance.
	Long term: Increased potential for unauthorized access to Base. Adverse.	M-6	Significant.	Below a level of significance.
A7C-ALPV, CC-ALPV, AIO AND NO ACTION ALTERNATIVES				
Special Use Airspace	None.	None.	No impact.	No impact.
Aviation Training Activities	None.	None.	No impact.	No impact.

Table 7.22-1 (continued
Summary of Adverse Impacts, Mitigation Measures and CEQA Level of Significance Related to Military Impacts

Summary of Impacts		Mitigation Measures[1]	CEQA Level of Significance Before Mitigation	CEQA Level of Significance After Mitigation
Ground and Amphibious Training	None.	None	No impact.	No impact.
Land Use	None.	None.	No impact.	No impact.
Security	None.	None.	No impact.	No impact.
Potential for Cumulative Military Impacts				
Three SOCTIIP corridor Alternatives share a common alignment (the FEC-W, FEC-M and A7C-FEC-M alignments) on the Base and not only reduce or eliminate part of the buffer that currently exists, but each also reduces the land on the Base that would be available for military training or as a buffer between on Base military training activities and off site land uses. The CC Alternatives include widening of a short segment of I-5 adjacent to Camp Pendleton but will not require acquisition of any right-of-way from Camp Pendleton would do not result in new encroachments into Camp Pendleton. The I-5 Alternative would remove a small part of the Base in the northernmost part of SOSB. In summary, these SOCTIIP build Alternatives and other projects near the Base will continue to contribute to cumulative adverse impacts on Camp Pendleton associated with encroachment onto the Base and the reduction in buffer along the Base boundary. These encroachments and reduction in buffer are considered by the DoD and CMC to directly affect the ability of the Corps to most effectively perform its Military Mission at Camp Pendleton.				

Source: P&D Consultants (2003).
[1] The mitigation measures are described in detail in Section 4.21 (Affected Environment, Impacts and Mitigation Measures Related to Military Impacts) in the EIS/SEIR.

Table 7.24-1
Summary of Direct Adverse and Beneficial Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Paleontological Resources

Formation	Paleontological Sensitivity	Potential[1] for Impacts	Mitigation Measures	CEQA Level of Significance after Mitigation	
				Adverse	Beneficial
FAR EAST CORRIDOR-WEST ALTERNATIVE					
Puente Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace and Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
FAR EAST CORRIDOR-MODIFIED ALTERNATIVE					
Williams Formation - Pleasants Sandstone Member	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Silverado Formation	Moderate	Yes	P-1, P-2, P-3	Less than significant	Potentially
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace and Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
CENTRAL CORRIDOR-COMPLETE ALTERNATIVE					
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Vaqueros Formation[2]	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Topanga Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
San Onofre Breccia	Low	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially

Table 7.24-1 (continued)
Summary of Direct Adverse and Beneficial Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Paleontological Resources

Formation	Paleontological Sensitivity	Potential[1] for Impacts	Mitigation Measures	CEQA Level of Significance after Mitigation	
				Adverse	Beneficial
Quaternary Terrace and Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
CENTRAL CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE					
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Vaqueros Formation[2]	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Topanga Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
San Onofre Breccia	Low	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace and Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED (PREFERRED) ALTERNATIVE					
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace and Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
ALIGNMENT 7 CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE					
Santiago Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Sespe Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
San Onofre Breccia	Low	Yes	P-1, P-2, P-3	Less than significant	Potentially

Table 7.24-1 (continued)
Summary of Direct Adverse and Beneficial Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Paleontological Resources

Formation	Paleontological Sensitivity	Potential[1] for Impacts	Mitigation Measures	CEQA Level of Significance after Mitigation	
				Adverse	Beneficial
Quaternary Terrace/Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
ARTERIAL IMPROVEMENTS ONLY ALTERNATIVE					
San Onofre Breccia	Low	Yes	P-1, P-2, P-3	Less than significant	Potentially
Topanga Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace/Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
I-5 ALTERNATIVE					
Monterey Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Capistrano Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Niguel Formation	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Quaternary Terrace/Older Alluvium	High	Yes	P-1, P-2, P-3	Less than significant	Potentially
Younger Alluvium	Low to No	Yes	P-1, P-2, P-3	Less than significant	Potentially
Landslides	Indeterminate	Yes	P-1, P-2, P-3	Less than significant	Potentially
NO ACTION ALTERNATIVES					
	--	No	None	No impact	None.

Table 7.24-1 (continued)
Summary of Direct Adverse and Beneficial Impacts, Mitigation Measures and CEQA Level of Significance after Mitigation for Paleontological Resources

Formation	Paleontological Sensitivity	Potential[1] for Impacts	Mitigation Measures	CEQA Level of Significance after Mitigation	
				Adverse	Beneficial
Potential for Cumulative Paleontological Resources Impacts					
The destruction of fossils and geologic rock units contributes to a significant cumulative adverse impact because these non-renewable records of ancient life become permanently unavailable. In assessing cumulative impacts, the quantity of native rock and fossils already unavailable for study in Orange County due to existing development was considered in conjunction with proposed cumulative projects in the area. The SOCTIIP build Alternatives, when considered with other cumulative projects in the area, would contribute to a cumulative adverse impact on paleontological resources in the area. However, because the contribution of the SOCTIIP Alternatives to this cumulative impact would be very small and would be partially mitigated, the incremental contribution of the SOCTIIP Alternatives after mitigation would not substantially increase the total cumulative adverse impact on paleontological resources in Orange County.					

Source: SWCA (2003).

[1] Short-term adverse impacts to individual formations during construction are:

- The destruction of fossils (non-renewable, limited resources).
- Damage to fossils during grading.
- The destruction of rock units (non-renewable, limited resources) in the study area.
- Loss of contextual data associated with fossils.
- Loss of associations between fossils.
- Long term potential indirect adverse impacts to individual formations are associated with the provision of access to currently inaccessible areas of Orange County, thereby increasing human presence in those areas. Increased human presence creates opportunities for increased disturbance to paleontological resources including human-created erosion, increased natural erosion due to human modification of the environment, damage or erosion created by off-road motor vehicle traffic and increased illegal access and disruption to exposed fossil resources adjacent to the build Alternatives by amateur collectors and construction personnel.

[2] Vaqueros Formation may be present in this segment.

Table 7.25-1
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Far East Corridor – Modified (FEC-M) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 21.8 kilometers (km) (13.5 miles (mi)) of the alignment. Adverse.	PS-2 During construction, install high fire risk signs. PS-3 During operation, install high fire risk signs. PS-4 Install emergency call boxes prior to operation. PS-7 During construction, implement fuel modification as determined by the Orange County Fire Authority (OCFA) or Marine Corps Base (MCB) Camp Pendleton Fire Department, as appropriate.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 During construction, maintain access to the OCFA or MCB Camp Pendleton fire road grid, as appropriate. PS-6 During final design, incorporate access to the OCFA or MCB Camp Pendleton fire road grid in the design, as appropriate.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5	Less than significant.
Law Enforcement	The need for non-federal law enforcement service on the corridor segment through MCB Camp Pendleton. Potentially adverse if no non-federal law enforcement is provided.	PS-10 Prior to operation, transfer law enforcement jurisdiction from the federal government to the State of California.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Solid Waste Disposal	None.	None required.	Not applicable.
Schools	None.	None required.	Not applicable.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1 Prior to, during or after construction, relocate or protect utilities in place as approved by utility providers/owners.	Less than significant.
	Initial: Temporary loss of use of 1.4 ha (3.4 ac) and permanent acquisition of 0.7 ha (1.7 ac) at the SDG&E Cristianitos substation. Adverse. Ultimate: Temporary loss of use of 1.4 ha (3.4 ac) and permanent acquisition of 1.0 ha (2.5 ac) of the SDG&E Cristianitos Substation. Adverse.	PS-1 Design refinement to avoid or reduce temporary use and/or permanent acquisition of public services and utilities. U-2 Negotiate with utility to determine acceptable action and/or compensation for temporary and permanent loss of property.	Less than significant.
	Temporary loss of use of 0.7 ha (1.8 ac) and permanent acquisition of 0.2 ha (0.4 ac) of land at the SDG&E Talega Substation. Adverse.	PS-1 and U-2.	Less than significant.
	Relocation/addition of high voltage electrical towers and large utility poles. Maximum potential temporary use of 20.8 ha (51.6 ac) and permanent take of 501.7 sq m (5400 sq ft) for utility structures and 2.2 ha (5.2 ac) permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Percolation Ponds	Temporary use (0.7 ha (1.8 ac)) and permanent acquisition (0.4 ha (1.0 ac)) of one percolation pond on MCB Camp Pendleton for an extended detention basis (EDB).	PS-1. U-3 Negotiate, with the Department of the Navy, appropriate action and compensation to reduce the effects of encroachment on MCB Camp Pendleton percolation pond.	Less than significant.
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
Far East Corridor – West (FEC-W) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 21.2 kilometers (km) (13.2 miles (mi)) of the alignment. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
Law Enforcement	The need for non-federal law enforcement service on the corridor segment through MCB Camp Pendleton. Potentially adverse if no non-federal law enforcement is provided.	PS-10.	Less than significant.
Solid Waste Disposal	None.	None required.	Not applicable.
Schools	None.	None required.	Not applicable.
Flood Control Facilities	None.	None required.	Not applicable.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	Temporary loss of use and permanent acquisition	PS-1 and U-2.	Less than

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	of 0.5 ha (1.3 ac) at the SDG&E Cristianitos substation. Adverse.		significant.
	Relocation/addition of high voltage electrical towers and large utility poles. Maximum potential temporary use of 21.6 ha (53.7 ac) and permanent take of 494.7 sq m (5325 sq ft) for utility structures and 2.1 ha (5.2 ac) permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.
Percolation Ponds	Temporary use of (0.7 ha (1.7 ac)) and permanent acquisition (0.4 ha (1.0 ac)) of one percolation pond on MCB Camp Pendleton for an extended detention basin (EDB).	PS-1 and U-3.	Less than significant.
Emergency Evacuation	None.	None required.	Not applicable.
Central Corridor – Complete (CC) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 15.8 km (9.8 mi) of the alignment. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
	Increased response time. Adverse.	PS-8 During final design, coordinate the addition of OPTICON or other traffic pre-emption devices with the City of San Clemente.	Less than significant.
Law Enforcement	Short and long term, increased response times. Adverse.	PS-8.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Solid Waste Disposal	Relocation of part of the existing Prima Deshecha Landfill operations facilities.	U-1 Prior to, during or after construction relocate or protect utilities/facilities in place as approved by utility providers/owners.	Less than significant.
	Long term impacts to Prima Deshecha Landfill with capacity reduced by 2.6 mcm (3.5 mcy) and the Landfill lifespan reduced by 1.9 years. Adverse.	PS-11 Consult with Prima Deshecha engineers to develop and implement measures to minimize capacity and lifespan impacts.	Significant.
	Short term blocked access to Zone 4 proposed landfilling area. Adverse.	PS-12 Provide and maintain access to Zone 4 of the Prima Deshecha Landfill.	Less than significant.
	Ultimate only: Generation and disposal of up to 1.8 mcm (2.4 mcy) of excess soil and rock material. Adverse.	PS-13 Implement alternatives to disposal of excess material in area landfills. PS-13A Excess fill will not be deposited at MCB Camp Pendleton landfills without advance approval from the Base.	Significant.
Schools	Tesoro High School: Permanent acquisition of 0.4 ha (1.0 ac) of property used for landscaping, access road and parking. Adverse.	PS-1. PS-14 Negotiate with school district to determine acceptable action and compensation for permanent loss of facilities.	Less than significant.
	Tesoro High School: Temporary loss of use of 0.8 ha (2.0 ac) (Initial) and temporary use of 1.1 ha (2.8 ac) (Ultimate) of property currently used for landscaping, access road and parking. Adverse.	PS-1. PS-15 Negotiate with school district to determine acceptable action and compensation for temporary loss of facilities.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	San Clemente High School – Permanent acquisition of 2.4 ha (6.0 acres) of property from the ball fields, tennis courts, handball courts and football/track facility.	PS-1 and PS-14.	Significant.
	San Clemente High School – Temporary loss of use of2.8 ha (7.0 ac) of sports facilities. Adverse.	PS-1 and PS-15.	Significant.
	Ole Hanson Elementary School – Permanent acquisition of 0.7 ha (1.7 ac) of paved playground and displacement of existing portable classroom. Adverse.	PS-1 and PS-14.	Significant.
	Ole Hanson Elementary School –Temporary loss of use of 0.8 ha (2.0 ac) of paved play area during construction. Adverse.	PS-1 and PS-15.	Significant.
Public Services Facilities	Temporary loss of use of and permanent acquisition of 0.4 ha (1.0 ac) of San Clemente Post Office. Adverse.	PS-1. PS-16 Negotiate with public facility owner to determine acceptable actions for permanent loss of facilities.	Less than significant.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	CWRP Access Road – Initial: Temporary loss of use of 2.2 ha (5.3 ac) and permanent acquisition of 1.8 ha (4.5 ac) of access road. Ultimate: Temporary loss of use of 2.2 ha (5.3 ac) and permanent acquisition of 2.0 ha (5.0 ac) of access road. Not adverse because this Alternative includes realignment and replacement of the road before the existing road is disturbed.	PS-1 and U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	Relocation/addition of high voltage electrical towers and large utility poles. Initial: Maximum potential temporary use of 34.5 ha (84.4 ac) and permanent take of 550.5 sq m (5925 sq ft) for utility structures and 2.5 ha (6.2 ac) permanent take for access roads. Ultimate: Maximum potential temporary use of 33.4 ha (82 ac) and permanent take of 599.8 sq m (6,025 sq ft) for utility structures and 2.5 ha (6.2 ac) permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
Central Corridor – Avenida La Pata Variation (CC-ALPV) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 13.4 km (8.3 mi) of the alignment. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
Law Enforcement	None.	None required.	Not applicable.
Solid Waste Disposal Services	Relocation of part of the existing Prima Deshecha Landfill operations facilities.	U-1 Prior to, during or after construction relocate or protect utilities/facilities in place as approved by utility providers/owners.	Less than significant.
	Long term impacts to Prima Deshecha Landfill with capacity reduced by 2.6 mcm (3.5 mcy) and lifespan reduced by 1.9 years. Adverse.	PS-11.	Significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	Short term and long term, blocked access to Zone 4 proposed landfilling area. Adverse.	PS-12.	Less than significant.
Schools	Tesoro High School: Permanent acquisition of 0.4 ha (1.0 ac) of property used for landscaping, access road and parking. Adverse.	PS-1 and PS-14.	Less than significant.
	Tesoro High School – Initial: Temporary loss of use of 0.8 ha (2.0 ac) of property currently used for landscaping. Ultimate: Temporary loss of use of 1.1 ha (2.8 ac) or property currently used for landscaping, access road and parking. Adverse.	PS-1 and PS-15.	Less than significant.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	CWRP Access Road – Initial: Temporary loss of use of 2.2 ha (5.3 ac) and permanent acquisition of 1.8 ha (4.5 ac) of access road. Ultimate: Temporary loss of use of 2.2 ha (5.3 ac) and permanent acquisition of 2.0 ha (5.0 ac) of access road. Not adverse because this Alternative includes realignment and replacement of the road before the existing road is disturbed.	PS-1 and U-2.	Less than significant.
	Relocation/addition of high voltage electrical towers and large utility poles. Initial: Maximum potential temporary use of 10.1 ha (24.3 ac) and permanent take of 267.1 m (2875 ft) for utility structures and 0.8 ha (2.0 ac) permanent take for access roads. Ultimate: Maximum potential	PS-1, U-1 and U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	temporary use of 31.8 ha (78 ac) and permanent take of 464.5 m (5,000 ft) for utility structures and 2.1 ha (5.2 ac) permanent take for access roads.		
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
Alignment 7 Corridor – Far East Crossover-Modified (A7C-FEC-M)/Preferred Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 21.9 kilometers (km) (13.6 miles (mi)) of the alignment. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
Law Enforcement	The need for non-federal law enforcement service on the corridor segment through MCB Camp Pendleton. Potentially adverse if no non-federal law enforcement is provided.	PS-10.	Less than significant.
Solid Waste Disposal	None.	None required.	Not applicable.
Schools	None.	None required.	Not applicable.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	Temporary loss of use and permanent acquisition of 0.5 ha (1.3 ac) at the SDG&E Cristianitos substation. Adverse.	PS-1 and U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	Temporary loss of use of 0.7 ha (1.8 ac) and permanent acquisition of 0.2 ha (0.4 ac) of land at the SDG&E Substation. Adverse.	PS-1 and U-2.	Less than significant.
	Relocation/addition of high voltage electrical towers and large utility poles. Maximum potential temporary use of 19.3 ha (47.9 ac) and permanent take of 480.8 m (5175 ft) for utility structures and 3.8 ha (9.4 ac) permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.
Percolation Ponds	Temporary use (1.7 ha (2.7 ac)) and permanent acquisition (0.4 ha (1.0 ac)) of one percolation pond on MCB Camp Pendleton for an extended detention basin (EDB).	PS-1 and U-3.	Less than significant.
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
Alignment 7 Corridor – Avenida La Pata Variation (A7C-ALPV) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire along 13.0 km (8.0 mi) of the alignment. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
Law Enforcement	None.	None required.	Not applicable.
Solid Waste Disposal	Long term impacts to Prima Deshecha Landfill with capacity reduced by 6.8 mcm (9 mcy) and lifespan reduced by 4.9 years. Adverse.	PS-11.	Significant.
	Short term blocked access within Zone 4 proposed landfilling area. Adverse.	PS-12.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Schools	Tesoro High School – Initial: Temporary loss of use of 0.7 ha (1.8 ac) of land currently used for landscaping. Ultimate: Temporary loss of use of 1.3 ha (3.2 ac) of land currently used for landscaping. Adverse.	PS-1 and PS-15.	Less than significant.
	Tesoro High School: Permanent acquisition of 0.4 ha (1.0 ac) of property used for landscaping, access road and parking. Adverse.	PS-1 and U-2.	Less than significant.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	CWRP – Initial: Temporary loss of use and permanent acquisition of 6.2 ha (15.2 ac) of CWRP. Some existing treatment facilities would be removed. Ultimate: Temporary loss of use and permanent acquisition of 7.1 ha (17.6 ac) of the CWRP. Some existing treatment facilities would be removed. Adverse.	PS-1 and U-2.	Less than significant.
	CWRP Access Road – Initial: Temporary loss of use and permanent acquisition of 1.0 ha (2.6 ac) of access road. Ultimate: Temporary loss of use and permanent acquisition of 1.1 ha (2.7 ac) of the access road. Not adverse because this Alternative includes realignment and replacement of the road before the existing road is disturbed.	U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	Relocation/addition of high voltage electrical towers and large utility poles. Initial: Maximum potential temporary use of 1.1 ha (2.8 ac) and permanent take of 9.3 m (100 ft) for utility structures. Ultimate: Maximum potential temporary use of 1.7 ha (4.1 ac) and permanent take of 9.3 m (100 ft) for utility structures. There would be no permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
Arterial Improvements Only (AIO) Alternative			
Fire Protection and Emergency Medical Services	Short and long term increased risk of wildfire. Adverse.	PS-2, PS-3, PS-4 and PS-7.	Less than significant.
	Short and long term blocked access to existing fire road grid. Adverse.	PS-5 and PS-6.	Less than significant.
	Reduced access to medical emergencies during construction. Adverse.	PS-5.	Less than significant.
Law Enforcement	None.	None required.	Not applicable.
Solid Waste Disposal	Relocation of part of the existing Prima Deshecha Landfill operations facilities.	U-1 Prior to, during or after construction relocate or protect utilities/facilities in place as approved by utility providers/owners.	Less than significant.
	Long term impacts to Prima Deshecha Landfill with capacity reduced by 0.2 mcm (0.3 mcy) and lifespan reduced by 0.1 year. Adverse.	PS-11.	Significant.
	Short term and long term, blocked access to Zone 4 proposed landfilling area. Adverse.	PS-12.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Schools	Las Flores Elementary School - Permanent acquisition of 2.1 ha (5.2 ac) of school property (playing fields). Adverse.	PS-1 and PS-14.	Significant.
	Las Flores Elementary School - Temporary loss of use of 2.5 ha (6.2 ac) of school land. Adverse.	PS-1 and PS-15.	Significant.
	Proposed San Juan Hills High School: Temporary loss of use and permanent acquisition of 0.4 ha (1.0 ac) of land at the school site. Adverse.	PS-1, PS-14 and PS-15.	Less than significant.
Public Services Facilities	None.	None required.	Not applicable.
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	CWRP Access Road: Temporary loss of use of 0.3 ha (0.6 ac) and permanent acquisition of 0.1 ha (0.22 ac) of the access road. Not adverse because this Alternative includes realignment and replacement of the road before the existing road is disturbed.	PS-1 and U-2.	Less than significant.
	Temporary loss of use of 0.5 ha (1.3 ac) and permanent acquisition of 0.07 ha (0.2 ac) of the SDG&E Antonio Parkway substation. Adverse.	PS-1, U-1 and U-2.	Less than significant.
	Relocation/addition of high voltage electrical towers and large utility poles. Maximum potential temporary use of 36.6 ha (90.4 ac) and permanent take of 747.9 m (8050 ft) for utility structures and 2.1 ha (5.2 ac) permanent take for access roads.	PS-1, U-1 and U-2.	Less than significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
	I-5 Alternative		
Fire Protection and Emergency Medical Services	Increased response time. Adverse.	PS-9 During construction, coordinate ramp closures and detour plans with fire, emergency medical and law enforcement providers.	Less than significant.
Law Enforcement	Short and long term, increased response times. Adverse.	PS-9.	Less than significant.
Solid Waste Disposal	Generation and disposal of up to 4.3 mcm (5.6 mcy) of excess soil and rock material. Adverse.	PS-13 and PS-13A.	Significant.
Schools	Mission Viejo High School – Permanent acquisition 0.6 ha (1.5 ac) including baseball fields, snack bar and bleachers associated with football field/track facility. Adverse.	PS-1 and PS-14.	Significant.
	Mission Viejo High School - Temporary loss of use of 0.7 ha (1.6 ac) of school property (sports areas). Adverse.	PS-1 and PS-15.	Significant.
	Ole Hanson Elementary School – Temporary loss of use and permanent acquisition of 0.5 ha (1.3 ac) hillside landscaping. Adverse.	PS-1, PS-14 and PS-15.	Less than significant.
	Rancho Capistrano School - Temporary loss of use and permanent acquisition of 2.3 ha (5.6 ac) of playing fields. Adverse.	PS-1, PS-14 and PS-15.	Significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
	San Clemente High School – Temporary loss of use and permanent acquisition of 2.0 ha (5.0 acres) of property from the ball fields, tennis courts, handball courts and the football/track facility. Adverse.	PS-1, PS-14 and PS-15.	Significant.
	Saint George's Episcopal Academy – Temporary loss of use and permanent acquisition of 0.4 ha (1.0 ac) including school building and loss of paved athletic area/parking. Adverse.	PS-1, PS-14 and PS-15.	Significant.
	San Juan Elementary School – Temporary loss of use and permanent acquisition of 0.5 ha (1.2 ac) including 2 permanent and 2 temporary buildings. Adverse.	PS-1, PS-14 and PS-15.	Significant.
Public Services Facilities	Lake Forest City Hall – Temporary loss of and permanent acquisition of 0.1 ha (0.3 ac) including loss of west end of building with some conference room space. Adverse.	PS-1 and PS-16.	Less than significant.
	Laguna Hills City Hall - Temporary loss of use and permanent acquisition of 0.2 ha (0.5 ac) of City Hall property. Adverse.	PS-1 and PS-16.	Less than significant.
	San Clemente Post Office - Temporary loss of use and permanent acquisition of 1.2 ha (2.8 ac) of post office property. Adverse.	PS-1 and PS-16.	Less than significant.
	Buccheim Fields - Temporary loss of use and permanent acquisition of 1.3 ha (3.3 ac). Adverse.	PS-1 and PS-16.	Significant.

Table 7.25-1 (continued)
Summary of Impacts, Mitigation Measures and CEQA Level of Significance After Mitigation for Public Services and Utilities

Parameter	Adverse Impacts Prior to Mitigation	Summary of Mitigation Measures[1]	CEQA Level of Significance After Mitigation
Utilities	Short term, potential damage to utilities or temporary interruption of service during construction. Adverse.	U-1.	Less than significant.
	Temporary loss of use and permanent acquisition of 0.004 ha (0.01 ac) at the SDG&E Laguna Hills substation and the temporary use and permanent acquisition of 0.9 ha (2.2 ac) at the SDG&E Crown Valley substation. Adverse.	PS-1.	Less than significant.
Flood Control Facilities	None.	None required.	Not applicable.
Emergency Evacuation	None.	None required.	Not applicable.
No Action Alternatives			
All public services and utilities	None.	None required.	Not applicable.
Potential for Cumulative Public Services and Utilities Impacts			
The build Alternatives, after mitigation, would not contribute to cumulative adverse impacts related to wildfires, fire and emergency medical services, law enforcement services or utilities. The build Alternatives, when considered with other cumulative projects in the area, would contribute to cumulative adverse impacts related to solid waste disposal and the reduction of disposal capacity in area landfills, even with mitigation. The build Alternatives, when considered with other cumulative projects in the area, would contribute to a cumulative adverse impact on schools, even with mitigation. Under the SOCTIIP Alternatives, the contribution is related to the acquisition of land from schools for these Alternatives. The CC and I-5 Alternatives, when considered with other cumulative projects in the area, would contribute to a cumulative adverse impact on public services, even with mitigation. Under the CC Alternative, the contribution is related to acquisition of the San Clemente Post Office; under the I-5 Alternative, the contribution is related to the acquisition of part of the property at the Lake Forest City Hall.			

Source: P&D Consultants (2003).

[1] The full text of all the mitigation measures is provided in Section 4.24 (Affected Environment, Impacts and Mitigation Measure Related to Public Services and Utilities). In this table, the mitigation measures are summarized the first time they are cited. All following references show the mitigations measure numbers only.

Table 7.26-1
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
FAR EAST CORRIDOR-MODIFIED ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air quality: Potential short term adverse impacts, if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~
The Donna O'Neill Land Conservancy	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: Potential short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Talega Community Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Pacific Golf Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Cristianitos Subunit 1	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: Short term access impacts.	R-4.	Not significant.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Vista Bahia Stadium Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente Municipal Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Trestles Subunit 2	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Design of Alternative results in a less than significant impact.	None.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed South San Clemente Neighborhood Park (east)	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
MCB Camp Pendleton San Onofre Recreation Beach	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Surfer Beach Subunit 3	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
FAR EAST CORRIDOR-WEST ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	No temporary use or permanent acquisition of property.	None.	Not applicable.
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air quality: Potential short term adverse impacts, if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~
The Donna O'Neill Land Conservancy	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: Potential short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Talega Community Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Pacific Golf Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Cristianitos Subunit 1	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: Short term access impacts.	R-4.	Not significant.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Vista Bahia Stadium Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente Municipal Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Trestles Subunit 2	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Design of Alternative results in a less than significant impact.	None.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed South San Clemente Neighborhood Park (east)	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
MCB Camp Pendleton San Onofre Recreation Beach	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Potentially adverse long term impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Surfer Beach Subunit 3	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
CENTRAL CORRIDOR-COMPLETE ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Less than significant noise impacts.	None.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Ladera Ranch Open Space	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
San Juan Capistrano Open Space and Trails	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Prima Deshecha Regional Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
San Clemente High School Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Ole Hanson Elementary School Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Design of this Alternative results in less than significant noise impact.	None.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Verde Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Bonito Canyon Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Talega Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Short Term Noise: Adverse construction noise impacts if resource is operational at time of construction.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Shorecliffs Middle School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Marblehead Sports Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente Municipal Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Luis Rey Park	No temporary use or permanent acquisition of property.	No impacts.	None.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Concordia Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente State Beach	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Cristianitos Subunit 1	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Community Park West	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Our Lady of Fatima Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed South San Clemente Neighborhood Park (east)	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed South San Clemente Neighborhood Park (west)	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Concordia Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
CENTRAL CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Less than significant noise impacts.	None.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	Not applicable.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Ladera Ranch Open Space	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~
San Juan Capistrano Open Space and Trails	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Less than significant noise impacts.	None.	Less than significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed Prima Deshecha Regional Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Talega Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Short Term Noise: Adverse construction noise impacts if resource is operational at time of construction.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Community Park West	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.
ALIGNMENT 7 CORRIDOR-AVENIDA LA PATA VARIATION ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Less than significant noise impacts.	None.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Ladera Ranch Open Space	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this~~	~~R-2 and R-3.~~	~~Less than significant.~~

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	~~Alternative.~~		
Proposed Prima Deshecha Regional Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Talega Golf Course	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse operational noise impacts.	None proposed.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Proposed Talega Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Short Term Noise: Adverse construction noise impacts if resource is operational at time of construction.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Talega Swim and Athletic Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Community Park West	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.
ALIGNMENT 7 CORRIDOR-FAR EAST CROSSOVER-MODIFIED (PREFERRED) ALTERNATIVE			
Tesoro High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
General Thomas F. Riley Wilderness Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air quality: Potential short term adverse impacts, if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	~~Visual: Long term adverse impacts on visual quality.~~	~~AS-1, AS-2, AS-3 and AS-4.~~	~~Significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~
Donna O'Neill Land Conservancy	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air quality: Potential short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: No impacts.	None.	Not applicable.
Talega Community Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Pacific Golf Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Cristianitos Subunit 1	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: Short term access impacts.	R-4.	Not significant.
	Visual: Long term adverse impacts on visual quality.	AS-1, AS-2, AS-3 and AS-4.	Significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Vista Bahia Stadium Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente Municipal Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Trestles Subunit 2	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Potentially significant.
	Operational Noise: Design of Alternative results in a less than significant impact.	None.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed South San Clemente Neighborhood Park (east)	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
MCB Camp Pendleton San Onofre Recreation Beach	No temporary use and permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Surfer Beach Subunit 3	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
ARTERIAL IMPROVEMENTS ONLY ALTERNATIVE			
Las Flores Elementary School Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
O'Neill Regional Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Ladera Ranch Open Space	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed Ladera Ranch Open Space	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if open space is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
~~Proposed San Juan Creek Regional Park~~	~~Temporary use and permanent acquisition of property.~~	~~R-1, R-2, R-3 and R-4.~~	~~Less than significant.~~
	~~Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.~~	~~None proposed.~~	~~Less than significant.~~
	~~Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.~~	~~AQ-1, AQ-2 and AQ-3.~~	~~Significant.~~
	~~Transportation: No impacts.~~	~~None.~~	~~Not applicable.~~
	~~Visual: Less than significant change to viewshed.~~	~~None.~~	~~Less than significant.~~
	~~Fragmentation: Resource is fragmented by this Alternative.~~	~~R-2 and R-3.~~	~~Less than significant.~~
San Juan Capistrano Open Space and Trails	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed Prima Deshecha Regional Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: Resource is fragmented by this Alternative.	R-2 and R-3.	Less than significant.
Pacific Golf Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Talega Community Park West	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Vista Del Mar Elementary and Middle School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Short Term Noise: Adverse construction noise impacts if resource is operational at time of construction.	N-1, N-2, N-3 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Talega Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant change to viewshed.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
I-5 ALTERNATIVE			
Cavanaugh Gowdy Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Sycamore Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
La Tierra Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Aegean Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Doria Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Mackenzie Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Mission Viejo High School Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3, and R-4.	Less than significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term air quality impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Linda Vista Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Mission Viejo Golf Course	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse operational noise impacts.	None proposed.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Madrid Fore Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Moulton Ranch Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Granada Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Cabot Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Capistrano Valley High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Rancho Capistrano Recreation Fields (Schuller)	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Northwest Open Space	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if open space is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Serra Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Marbella Golf and Country Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Stonefield Park and Soccer Field	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Serra High School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
San Juan Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Buchheim Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Historic Town Center Archaeological Park	No temporary use or permanent acquisition of property. None.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Descanso Veterans Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Juan Hills Country Club	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Juan Capistrano Open Space	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Las Ramblas Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Via Canon Park	Temporary use or permanent acquisition of property.	R-1, R-2, R-3, and R-4.	Less than significant.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Potential short term adverse impacts if park is operational during construction of this Alternative.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Palisades Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Sunset Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Fragmentation: No impacts.	None.	Not applicable.
Mira Costa Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Shorecliffs Golf Course	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Park at Calle Juarez and Calle Guadalajara	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
San Gorgonio Park	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed Marblehead Sports Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Shorecliffs Middle School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente High School Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Bonito Canyon Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Ole Hanson Elementary Sports Fields	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Significant.
	Operational Noise: Adverse operational noise impacts.	N-7, N-8, N-9 and N-10.	Less than significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Verde Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Our Lady of Fatima Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente Municipal Golf Course	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Clemente State Beach	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
San Luis Rey Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
Concordia Elementary School Sports Fields	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: Adverse operational noise impacts.	None proposed.	Significant.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed Concordia Park	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Proposed South San Clemente Neighborhood Park (west)	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
Proposed South San Clemente Neighborhood Park (east)	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Noise: This proposed resource is not in operation. Future planning for this resource would address noise impacts of this Alternative.	None proposed.	Less than significant.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Cristianitos Subunit 1	Temporary use and permanent acquisition of property.	R-1, R-2, R-3 and R-4.	Less than significant.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
SOSB Trestles Subunit 2	No temporary use or permanent acquisition of property.	None.	Not applicable.
	Operational Noise: No impacts.	None.	Not applicable.
	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
	Air Quality: Short term adverse impacts.	AQ-1, AQ-2 and AQ-3.	Significant.
	Transportation: No impacts.	None.	Not applicable.
	Visual: Less than significant.	None.	Less than significant.
	Fragmentation: No impacts.	None.	Not applicable.
The following recreation resources would be adversely impacted only by construction noise, but are not close enough to the I-5 Alternative to be subject to any other impacts.			
Clarington Park	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
Knotty Pine Park	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
La Paz Middle School Sports Fields	Short Term Noise: Adverse construction noise impacts.	N-1, N-2, N-3 and N-4.	Significant.
El Camino Real Park	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.
Creekside Park	Short Term Noise: Adverse construction noise impacts.	N-1, N-2 and N-4.	Significant.

Table 7.26-1 (continued)
Summary of Impacts, Mitigation and Level of Significance for Recreation Resources

Recreation Resource	Impacts	Applicable Mitigation Measures[1]	CEQA Level of Significance after Mitigation
NO ACTION ALTERNATIVE (OCP-2000)[2]			
No existing or proposed recreation resources would be directly or indirectly affected by the No Action Alternative (OCP-2000).	No temporary or permanent acquisition of property.	None.	Not applicable.
	Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
NO ACTION ALTERNATIVE (RMV DEVELOPMENT PLAN)[2]			
No existing or proposed recreation resources would be affected by the No Action Alternative (RMV Development Plan).	No temporary or permanent acquisition of property.	None.	Not applicable.
	Noise: No impacts.	None.	Not applicable.
	Air Quality: No impacts.	None.	Not applicable.
	Transportation: No impacts.	None.	Not applicable.
	Visual: No impacts.	None.	Not applicable.
	Fragmentation: No impacts.	None.	Not applicable.
Potential for Cumulative Recreation Resources Impacts			
Because the SOCTIIP build Alternatives do not entail the development of residential or commercial uses, they will not result in impacts related to increased demand for recreation resources. The SOCTIIP build Alternatives would contribute to cumulative impacts related to recreation resources in the study area as a result of direct impacts and/or indirect impacts on recreation resources.			

Source: P&D Consultants (2003).

[1] The full text of these mitigation measures are provided in the following Sections of the EIS/SEIR:
4.6 (Affected Environment, Impacts and Mitigation Measures Related to Noise).
4.7 (Affected Environment, Impacts and Mitigation Measures Related to Air Quality).
4.18 (Affected Environment, Impacts and Mitigation Measures Related to Visual Resources).
4.25 (Affected Environment, Impacts and Mitigation Measures Related to Recreation Resources).

[2] It is uncertain what the effect would be on recreation resources in the study area with regard to accommodating new transportation facilities or alternative methods of transportation. In the absence of any known proposed facilities that would result in either direct or indirect impacts, no impacts are assumed for the No Action Alternatives (OCP-2000).

SECTION 8.0
INVENTORY OF MITIGATION MEASURES

This section lists the mitigation measures for the proposed South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) build Alternatives. The applicability of each of these measures to each of the SOCTIIP Alternatives is detailed in tables provided in Section 4.0 (Affected Environment, Environmental Consequences and Mitigation Measures).

8.1 MITIGATION MEASURES RELATED TO TRAFFIC AND CIRCULATION

Measure for Short-Term Construction Impacts

Measure CT-1. A Construction Traffic Management Plan (CTMP) will be developed during final design by the TCA or other implementing agency/agencies. The CTMP will include, but not be limited, to:

- Identification of designated haul routes in consultation with the affected local jurisdictions.
- Limiting construction truck and haul traffic to designated routes only.
- Public information and promotional activities including distribution of newsletters, brochures, 24-hour information hot line and press releases. The TCA or the implementing agency/agencies will coordinate with businesses adjacent to the construction areas and prepare plans for improving carpooling, transit and other shared ride services.
- The use of fast track construction techniques to speed construction times.
- Construction scheduling (start/stop times, major materials deliveries, export hauling, etc.) should be scheduled to avoid AM and PM peak traffic periods on adjacent streets to the extent feasible, so that the majority of construction related traffic occurs outside of peak commuting times.
- Identification of alternative routes and routes across the construction areas for emergency and school vehicles developed in coordination with the affected agencies.
- Changeable message boards and alternative route signs should be used.
- Identification of additional traffic enforcement (increased patrols), as needed to ensure public safety in the vicinity of construction areas and detour routes.
- Coordination and implementation of improved/modified signal timing and synchronization at intersections near the construction area and along routes adversely affected by construction traffic.
- Installation of visual barriers or paddle screens around construction areas to help reduce "rubbernecking" by travelers.
- Coordinate with Caltrans and local agencies to ensure that signage for haul routes, detour routes and public information is consistent.

Measures for Long-Term Impacts

Table 8-1 identifies mitigation to avoid or substantially reduce the long-term direct adverse traffic impacts of the SOCTIIP build Alternatives related to long-term direct adverse impacts. For each impacted location, Table 8-1 notes the land use/circulation scenario in which the direct adverse impact occurs and the share of traffic that is attributed to the SOCTIIP build Alternative under which the impact occurs.

8.2 MITIGATION MEASURES RELATED TO LAND USE

Measure LU-1: Impacts on Existing Land Uses. If a SOCTIIP build Alternative is selected, design refinements to avoid or minimize impacts to existing land uses, related to the temporary use and/or permanent acquisition of property, will be incorporated in the final design of the selected Alternative, where prudent and feasible.

Measure LU-2: TRW Capistrano Test Site. During final design and/or construction, as appropriate, in coordination with TRW and Rancho Mission Viejo (landowner), the facility access road and front gate at the TRW Capistrano Test Site will be relocated to minimize disruption and impacts to TRW security and to maintain access to this facility. During final design and/or construction, as appropriate, the contractor will coordinate with TRW and incorporate design features and security measures, as appropriate, to mitigate construction related impacts to operations at the TRW Capistrano Test Site (TRW Capistrano Test Site is now known as the Northrop Grumman Capistrano Test Site).

8.3 MITIGATION MEASURES AND COMMITMENTS RELATED TO FARMLAND

Measures for Agricultural Resources on Rancho Mission Viejo

Measure AG-1: Existing Operations on RMV. During final design, and in coordination with RMV and its agricultural leaseholders, the contractor will finalize the realignments of access roads on the ranch to provide cattle and equipment crossings to minimize impediments to cattle movement and routine agricultural operations and normal business activities.

Measure AG-2: Existing Operations on RMV. Prior to the start of any construction activities, any corrals and/or windmills within the disturbance limits of a SOCTIIP build Alternative will be relocated or replaced. In the event that the RMV or the leaseholder does not want the facility relocated, appropriate compensation for the facility will be provided.

Measure for Agricultural Resources on MCB Camp Pendleton

Measure AG-3: Agricultural Operations on Camp Pendleton (San Clemente Ranch). During final design, the contractor will develop a realigned access road for the San Clemente Ranch to ensure all-weather access to the agricultural operations in the leased area on MCB Camp Pendleton. The timing of the construction of this realigned access road will be coordinated with the agricultural operator to ensure that peak operation times are not affected. The realigned road must be completed prior to closure of the existing road.

Commitments Related to Agricultural Resources

In addition to mitigation measures AG-1, AG-2 and AG-3, above, which identify specific actions to avoid, minimize or compensate for potential adverse impacts related to agricultural resources, the following commitment is included in the project alternatives:

Commitment AGC-1: Existing Operations on RMV.

Prior to the start of any construction activity, written notification will be provided to agricultural property owners or leaseholders immediately adjacent to the disturbance limits for the SOCTIIP build Alternative. The notification is to indicate the intent to begin construction, including an estimated date for the start of construction. This notification shall be provided at least three, but no more than 12, months prior to the start of construction activity.

8.4 MITIGATION MEASURES RELATED TO SOCIOECONOMICS

Measure SE-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Residential and Non-Residential Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the permanent acquisition of land currently occupied by residential and non-residential users. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of residential and non-residential property will apply to the build Alternatives.

Measure SE-2: Property Acquisition and Relocation Assistance. Prior to acquisition of right of way, the TCA or other agencies implementing a SOCTIIP Alternative (because the TCA will not be the implementing agency for the non-corridor Alternatives) will comply with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 in the acquisition of all property within the right-of-way necessary for the proposed project. All displaced households and businesses will be contacted to ensure that each eligible displacee receives their full relocation benefits, including advisory assistance, and that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources will be available to all eligible displaced persons or businesses without discrimination. TCA will also comply with the Public Park Preservation Act as applicable.

Measure SE-3: Replacement Housing Program. Prior to demolition of any affordable units, the TCA or other implementing agency/agencies shall enter into an agreement with the City of San Clemente to provide replacement affordable housing in compliance with the requirements of the City of San Clemente Housing Element. This shall be accomplished through the provision of replacement housing or the payment of in lieu fees. No other jurisdictions in the displacement area have similar programs. The City of San Clemente's Housing Element requires that three or more dwelling units in the Coastal Zone which are to be demolished or converted, and which are currently occupied by households whose income is 80 percent or below the County median income, be replaced.

8.5 MITIGATION MEASURES RELATED TO PEDESTRIAN AND BICYCLE FACILITIES

Measure R-1: Avoidance of the Temporary Occupancy and/or Permanent Acquisition of Recreation Resources Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary occupancy during construction and the permanent acquisition of land currently occupied by or proposed for use by recreation resources. In the event that the temporary occupancy or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of recreation resources property will apply to the build Alternatives consistent with Uniform Relocation Assistance.

Measure R-2: Consultation with Owners/Operators of Recreation Resources. In conjunction with measures R-3 and R-4 (compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, refer to Section 4.6), the TCA or implementing agency/agencies will consult with the affected property owner/operator of recreation resources temporarily used or permanently acquired by a build Alternative. The purposes of this consultation will be to:

- Identify and implement opportunities to protect recreation resources in place.

- Identify and implement opportunities to replace lost recreation facilities within the existing recreation property.
- Combine compensation and protection/modification of affected recreation resources to comply with the Uniform Relocation Assistance Act and minimize adverse impacts on recreation resources.

Measure R-3: Direct Permanent Impacts (Property Acquisition) at Recreation Resources. Consistent with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

Measure R-4: Direct Temporary Impacts (Occupancy of Property During Construction) on Recreation Resources. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or implementing agency/agencies will negotiate with the owner/operator whose recreation facilities will be temporarily occupied during construction to determine appropriate action and or compensation to mitigate for the temporary occupancy.

Measure R-5: Impacts on Trails. During final design, the TCA or implementing agency/agencies will provide for crossings of planned lateral Class I and existing and planned Class II bicycle trails, as well as hiking and equestrian trails at master planned locations across the road alignments. These trail crossings will be designed and constructed according to the standards of Caltrans and the applicable local ~~jurisdictions~~ agency with responsibility for the trail, as appropriate. Construction plans will include directions to contractors related to minimizing potential disruptions to existing bicycle, riding and hiking trails during construction, as feasible.

8.6 MITIGATION MEASURES RELATED TO NOISE

8.6.1 MITIGATION MEASURES FOR CONSTRUCTION NOISE IMPACTS

Measure N-1. Local Control of Construction Hours. During construction, the construction contractor will be responsible for limiting hours of construction in a manner consistent with the Orange County Noise Ordinance. This Ordinance prohibits construction and grading activities during the hours of 8:00 PM and 7:00 AM on weekdays and Saturdays, or at any time on Sunday or a Federal holiday in circumstances where the ordinance noise standards may otherwise be exceeded. The impact analysis indicates that the restriction of construction hours would typically occur when pile driving is within 850 m (2,800 ft) of noise sensitive land uses, heavy grading occurs within 1,500 m (5,000 ft) of noise sensitive land uses, and when general construction occurs within 275 m (900 ft) of noise sensitive land uses. However, these distances are only a guide due to the large variation in construction activities. In all cases, compliance with the Orange County Noise Ordinance and/or any applicable City Noise Ordinance is the critical requirement. However, there may be a potential need to conduct nighttime pile driving during construction of corridor Alternatives that have a direct connection with I-5 and the Alternatives which widen I-5. Where proposed pile driving for I-5 requires a lane closure, it is anticipated that this work will need to be performed at night to minimize associated traffic congestion. Nighttime pile driving will only be allowed on review of the construction plans for the corridor Alternatives by the TCA or for the other Alternatives by the implementing agency to confirm that appropriate noise attenuation measures are in place, including appropriate notification of the public. Any project construction activities planned between 7:00 PM and 7:00 AM on MCB Camp Pendleton will require approval from the TCA in consultation with the Commanding General of Camp Pendleton. For any portion of this project that may be constructed on MCB Camp Pendleton in San Diego County (outside the area of jurisdiction of the Orange County Noise Ordinance or outside the area of jurisdiction of San Clemente's Noise Ordinance),

approval of the planned hours of construction, including any need to perform nighttime pile driving, will rest solely with the Commanding General of Camp Pendleton.

Measure N-2. Construction Equipment. During construction activities, the construction contractor will ensure that the construction vehicles and equipment shall be maintained properly in tune as required by local ordinances. Additionally, each internal combustion engine used on the job shall be equipped with a "residential" or "hospital" grade muffler.

Measure N-3. Schools Adjacent to Construction Zone. Prior to construction activities in the vicinity of any school, the construction contractor shall be responsible for developing an agreement with ~~Capistrano Unified~~ Fallbrook Union Elementary School District, Camp Pendleton and private school operators, as appropriate, that would mitigate construction noise levels in classrooms and playfields at the affected schools to an agreed to construction noise performance standard. Each agreement shall be completed prior to the initiation of any grading on construction within 600 m (2,000 ft) of the school grounds. Examples of noise mitigation options include construction of temporary soundwalls, and limitation of some of the noisiest construction activities to periods when the schools are closed (e.g., the summer for the two public schools).

Measure N-4. Haul Routes. Prior to construction activities, the construction contractor shall establish haul routes that avoid passing through or adjacent to residential and school areas to the extent feasible. In general, truck routes should be directed away from residential areas and onto the I-5 to minimize the construction truck intrusion. If haul routes must pass through residential areas, haul route traffic should be limited to daytime hours (7 AM to 8 PM). The haul routes will be developed in conjunction with the applicable local jurisdictions.

Measure N-5. Nighttime Demolition. Nighttime demolition activities may occur under the I-5 Alternative. The implementing agency shall ensure that residents within 300 m (1,000 ft) of the demolition area are notified in advance that demolition activities will occur. Qualified residents within 300 m (1,000 ft) requesting relocation during the nighttime demolition activities should be provided with hotel vouchers at a local hotel but outside the demolition impact zone by the implementing agency.

Measure N-6. Noise Complaint Officer. Prior to construction activities, the construction contractor shall identify a Noise Complaint Officer and establish a Noise Complaint hotline. The Noise Complaint Hotline shall be able to receive calls on a 24 hour basis. Any complaints regarding construction shall be forwarded to the Noise Complaint Officer. The Noise Complaint Officer shall record the general description of the complaint, the time the offending noise occurred and the location of the complaint. The Officer shall attempt to measure the noise that generated the complaint within the following 24 hours. If the noise levels exceed those allowed during nighttime construction activities under the local Noise Ordinance, or activities are occurring that are inconsistent with the noise mitigation measures, then the construction contractor shall be responsible for correcting those problems within the following 48 hours. The noise levels measured and any corrective actions shall be recorded with the original complaint form.

8.6.2 MITIGATION MEASURES FOR LONG-TERM NOISE IMPACTS

Measure N-7. Final Noise Analysis. During final design of the selected Alternative, the TCA or the implementing agency/agencies will prepare a final noise analysis based on the detailed and finalized design developed during final design for the selected Alternative. Feasibility considerations for each sound barrier must meet FHWA/Caltrans criteria including a minimum of 5 dB of noise reduction at the impacted receiver. Additional feasibility considerations are (1) topography, (2) access requirements for driveways, ramps, etc; (3) the presence of cross streets, (4) other noise sources in the area and (5) safety considerations. The TCA or the implementing agency/agencies will finalize noise mitigation requirements

for the selected Alternative and coordinate design with the local agency. As appropriate, the Final Noise Assessment Technical Report and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report will provide specific recommendations that will then be incorporated into the Construction documentation (i.e., final design) for building purposes.

Measure N-8. Long-Term Noise Impacts. During construction, the TCA or the implementing agency/agencies shall implement permanent sound barriers, including walls, berms or combinations of walls and berms. The sound barrier and/or supplemental berm must provide a minimum of 5 dB of noise reduction at the impacted receiver as refined during final design. The locations of these proposed sound barrier/berms are shown on Figures by Alternative in Appendix K. The construction contractor will be responsible for constructing the sound barrier/berm for the selected Alternative and as refined during final design. As appropriate, the Final Noise Assessment Technical Report will be reviewed and the sound barrier/berm height recommended in the Final Noise Assessment Technical Report will serve as a guideline in determining the final barrier height requirements. Other pertinent information from the Final Noise Assessment Technical Report will be incorporated into final design as appropriate. The Final Noise Assessment Technical Report provides specific recommendations that ate then translated into the construction documentation (i.e., final design) for build purposes. The design and specifications of the sound walls, shown on Figures 5.2-79 through 5.2-82 (Appendix K of the Draft EIS/SEIR), on MCB Camp Pendleton shall be approved by the Commanding General of Camp Pendleton.

8.6.3 COMMITMENTS RELATED TO LONG-TERM NOISE IMPACTS

In addition to mitigation measures N-7 and N-8, which identify specific actions to avoid, minimize or compensate for potential long-term adverse noise impacts, the following commitments are included in the project alternatives:

Commitment NC-1. Determination of Reasonableness. During final design, the TCA or the implementing agency/agencies shall determine the reasonableness of soundwall/berm placement and consider the life cycle of the sound barrier, the potential environmental impact of the mitigation, opinions of impacted residents, input from the public and local agencies, and social, economic and environmental factors consistent with the FHWA/Caltrans feasibility criteria.

Commitment NC-2. Soundwall/Floodplain. During final design, if the TCA or the implementing agency/agencies locates a soundwall/berm in a floodplain, the TCA or the implementing agency/agencies shall prepare an evaluation of the effects of the soundwall on the floodplain in accordance with appropriate guidelines and design manuals. The design and location will be determined to ensure there is no exceedance of the one foot elevation of the base floodplain. Early recognition and analysis of potential problem areas will be made to determine if wall openings or staggered wall openings are viable for those barriers.

8.7 MITIGATION MEASURES RELATED TO AIR QUALITY

8.7.1 MITIGATION MEASURES FOR SHORT-TERM AIR QUALITY IMPACTS

Measure AQ-1. During construction, contractor specifications shall incorporate directions to contractors to control fugitive dust. Fugitive dust shall be controlled by regular watering, paving construction roads, or other dust preventive measures, as defined in SCAQMD Rule 403.

After clearing, grading, earth moving or excavation the following activities will be performed by the construction contractor:

a. Seeding and watering will be performed until viable vegetation cover is in place in inactive areas.
b. Soil binders will be spread.
c. Areas will be wet down sufficiently to form a crust on the surface. Repeated soakings will be performed as necessary to maintain this crust.
d. Reduce speeds to 10 to 15 mph in construction zones on unpaved areas.

Measure AQ-2. During construction, measures contained in Tables 1 and 2 of SCAQMD Rule 403 will be implemented by the construction contractor. Control of particulate emissions from construction activities is best controlled through the requirements contained in SCAQMD's Rule 403, Tables 1 and 2. Tables 1 and 2 are reproduced here as Figures 4.7-5, 4.7-6 and 4.7-7. The measures contained in these tables are presented as an option to air quality monitoring in Rule 403. Figure 4.7-5 contains measures such as maintaining an adequate moisture content in the soil, watering grading areas, establishing ground cover in inactive areas and watering unpaved roads. Figures 4.7-6 and 4.7-7 identify additional measures that are applied during high wind conditions. The mitigation measure, therefore, is to require that the measures contained in Tables 1 and 2 of Rule 403 be utilized. This potentially results in a much higher reduction of particulate emissions than if the air monitoring option contained in Rule 403 was employed. The air monitoring option requires monitoring around the project site, and as long as pollutant levels do not exceed threshold limits, no pollutant emission reduction measures are employed. The measure would be triggered prior to the initiation of grading.

Measure AQ-3. During construction, the contractor shall be responsible for sweeping ~~All~~ all public streets adjacent to the project site ~~shall be swept~~ once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). This condition would apply to those areas where construction traffic leaves the project site and travels onto public roadways.

Measure AQ-4. During construction, the contractor shall be responsible for ~~I~~installing wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

Measure AQ-5. During final design, contractor specifications shall require that contractors implement the following measures:

- Use low emission mobile construction equipment.
- Maintain construction equipment engines by keeping them tuned.
- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- Configure construction parking to minimize traffic interference.
- Minimize obstruction of through-traffic lanes. When feasible, construction should be planned so that lane closures on existing streets are kept to a minimum.
- Schedule construction operations affecting traffic for off-peak hours.

- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service).
- Include in construction grading plans a statement that work crews shut off equipment when not in use.
- Support and encourage ridesharing and transit incentives for the construction crew.

Measure AQ-6. During construction, any material deposited onto paved roads due to a major storm event must be removed within 72 hours of the event by the contractor. Additional time is allowed for mudslides or similar events that block traffic over the material. In the event of road closures due to mudslides or other overwhelming accumulations of material, public access should be restricted until all the material is removed.

8.7.2 MITIGATION MEASURES FOR LONG-TERM AIR QUALITY IMPACTS

Measure AQ-7. ~~This~~ During construction, the contractor shall be responsible for implementing a control measure which specifies three "preventive" and one "mitigative" control option(s) that would be mandatory of all unpaved road connections with paved public roads. The four mandatory control options include:

- Paving the last 100 feet from an unpaved roadway connection with a paved road.
- Chemical stabilization of the last 100 feet from an unpaved roadway connection with a paved road at sufficient frequency and concentration to maintain a stabilized surface at all times.
- Installation of dirt removal devices (e.g., tire cleaning device, grizzlies, etc.).
- Cleaning of public paved road surface at any time visible track-out occurs.

8.8 MITIGATION MEASURES RELATED TO FLOODPLAINS, WATERWAYS AND HYDROLOGIC SYSTEMS

Mitigation measures concerning impacts to floodplains, waterways and hydrologic systems are measures WQ-1 to WQ-4. Refer to Section 8.9 (Mitigation Measures Related to Water Quality) for a description of these measures.

8.9 MITIGATION MEASURES RELATED TO WATER QUALITY

WQ-1 Preservation of Adjacent Existing Vegetation. The TCA or other implementing agency/agencies, as appropriate will preserve to the extent feasible existing vegetation at areas on the construction site where either no construction activity is planned or where it will occur at a later date. The vegetation will be preserved according to the California Storm Water BMPs Municipal Handbook (1993) as listed in the RMP.

WQ-2 Construction Site BMPs. The TCA or other implementing agency/agencies, as appropriate will implement construction site BMPs as appropriate, during construction of the SOCTIIP Alternatives. These BMPs are described in the California Best Management Practice Handbooks for Construction (1993, revision pending), Caltrans, SWMP and Storm Water Quality Handbooks. BMPs categories include measures for temporary sediment control, temporary soil stabilization, scheduling, preservation of existing vegetation, conveyance controls, wind control, temporary stream crossings and waste management as well as many other measures which may be implemented during construction of a highway project. These measures are consistent with requirements set forth under the California State

Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 (General Construction Permit), which governs storm water and non-storm water discharges during construction activities, as well as with those requirements set forth in the Caltrans Permit Order No. 99 - 06 - DWQ (CAS 000003). These BMPs are directed at reducing storm runoff pollutants and eliminating non-storm water discharges.

WQ-3 Storm Water Pollution Prevention Plan (SWPPP). Prior to start of soil-disturbing activity at the project site, a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) will be prepared in accordance with and to partially fulfill the General Construction Permit. The SWPPP will be prepared per the SWPPP and Water Pollution Control Program (WPCP) Preparation Manual, (Storm Water Quality Handbooks, November 2000.) The SWPPP will meet the applicable provisions of Sections 301 and 402 of the CWA by requiring controls of pollutant discharges that utilize best available technology (BAT) which is economically achievable and best conventional pollutant control technology (BCT) to reduce pollutants. The SWPPP will be implemented concurrently with commencement of the soil-disturbing activity. The SWPPP will need to be certified in accordance with the signatory requirements of the General Construction Permit.

WQ-4 Spill Contingency. Emergency planning for highway spills will be addressed by both operational and structural BMPs. The TCA, Caltrans or other implementing agency/agencies, as appropriate, will take primary responsibility for spill clean-up and contingencies during construction and operation of the project, though coordination with other agencies will be necessary.

- Operational BMPs include immediate emergency notification through 911 during a spill event. After emergency notification, the following notifications will occur:
- The local fire department and the Orange County Fire Authority will then be notified, and emergency actions (road closures, medical evacuation, cleanup of hazardous materials, etc.) will be taken; if the spill occurs on or affects MCB Camp Pendleton, these authorities will be notified.
- If the spill is above the Reportable Quantity (RQ), the State Office of Emergency Services (800.852.7550) will be contacted and a control number provided. The National Response Center (800.424.8802) will be contacted to comply with Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirements. The California Hazardous Material Incident Reporting System (CHMIRS) (916.427.4287) will be notified (assuming the spill volume is more than four liters (two gallons)) and appropriate forms filled out.

Measure WQ-5 Operations, Maintenance and Monitoring Plan. When an alternative is selected for implementation an Operations, Maintenance and Monitoring Plan will be developed in consultation with the appropriate agencies, i.e., Caltrans. Maintenance objectives for project BMPs will be addressed and formalized in the Operation, Maintenance and Monitoring Plan. Caltrans will monitor the BMPs to ensure maintenance objectives are being met. Details of the monitoring will comply with Caltrans Storm Water Policy and requirements of the 401 Certification with Caltrans as the holder of the statewide permit for state highways.

Measure WQ-6 Monitoring of BMPs. For the corridor Alternatives, the TCA will monitor Caltrans' maintenance of the BMPs for five years to assure compliance with maintenance criteria and schedules. The TCA will provide annual reports to the Regional Water Quality Control Boards documenting the maintenance of the BMPs.

8.10 MITIGATION MEASURES RELATED TO WETLANDS AND WATERS OF THE UNITED STATES

Measure WW-1. Prior to construction, the TCA or other implementing agency/agencies shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

Measure WW-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. The TCA or other implementing agency/agencies Environmental and Engineering Staff shall determine the implementation of those recommendations.

Measure WW-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues during construction and operation to be addressed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA, the California Coastal Commission and Caltrans for review ~~and approval~~to the extent required by permit by such agencies.

The primary goals of the BRMP ~~will be~~are to ensure that (1) the long-term perpetuation of the existing diversity of habitats through restoration in the project area and adjacent urban interface zones and to ~~prevent~~ minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum the following:

a. Identification of all Environmental Sensitive Areas (ESA). ESAs are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS.

b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas.

c. Locations of trees to be protected as wildlife habitat (roosting sites).

d. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of nonnatives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

Sources of plant materials and methods of propagation.

- Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the right-of-way.
- Remedial measures to be taken if performance standards are not met.

- Methods and requirements for monitoring of the restoration efforts.
- Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

e. Specific measures for the protection of sensitive habitats to be preserved in and adjacent to the right-of-way to ensure that construction does not increase beyond the impacts identified in the EIS/SEIR. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be provided in the Storm Water Pollution Prevention Plan (SWPPP).

f. A summary of the type and quantification of habitats to be removed.

g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

  - Sources of plant materials and methods of propagation.
  - Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way.
  - Remedial measures to be taken if performance standards are not met.
  - Methods and requirements for monitoring of the restoration efforts.
  - Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake and San Diego cactus wren.

i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits and biological monitoring requirements. Details of the erosion, siltation and dust control mitigation measures will be outlined in the Storm Water Pollution Prevention Plan (SWPPP).

j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.

k. Or equivalent measures, e.g., environmental permits.

Measure WW-4. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas) within 152.4 meters (500 feet) of the grading limits on the grading plans. The ESA maps shall be prepared by the construction contractor's qualified biologist and approved by the TCA or other implementing agency/agencies. All ESAs to be avoided and performance standards established by the resource agencies shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials be local southern Orange County natives.

Measure WW-5. During grading activities and construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including monitoring of the installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, falsework installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist. Biological monitoring shall be conducted to document adherence to habitat avoidance and minimization measures addressed in the project mitigation measure and as listed in the USFWS, CDFG, and USACOE permits/agreements.

Measure WW-6. Final design and construction shall restore the perennial river and stream channels and ephemeral drainages and washes to their original contours upon completion of construction where feasible, with the exclusion of areas of permanent impact.

Measure WW-7. During all construction activities, the Contractor shall ensure that construction equipment or vehicles shall not be stored in areas defined as ESAs, including areas within the jurisdiction of the USACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 meters (150 feet) of CDFG or USACOE jurisdictional areas. Construction equipment staging/storage shall be located in previously disturbed or non-native areas to the maximum extent possible.

Measure WW-8. During all construction activities, the Contractor shall ensure that no waste material shall be discharged to any CDFG or USACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or USACOE jurisdictional areas, or in areas where it could be washed into any surface water body.

Measure WW-9. Prior to final design, the Contractor shall prepare the final construction Runoff Management Plan (RMP). The plan shall address the final location of facilities to route and detain corridor runoff for the purpose of maintaining peak flows and flow velocities downstream of the Alignment at existing rates and preventing project pollutants from reaching improved and unimproved downstream drainages. County of Orange Best Management Practices (BMPs) will be included in these runoff facilities of the Alternatives as determined appropriate by the Design Engineer. The final RMP will contain provisions for changes to the plan (e.g., alternative mechanisms plant materials) if necessary during project design and/or construction phases to achieve the stated goals and performance standards at an equal or greater level. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality. The plan shall be submitted to the Regional Water Quality Control Board (RWQCB), Caltrans, and the Orange County Environmental Management Agency (OCEMA) Environmental Planning Division for review and comment. (RMP, Psomas 2003.)

Measure WW-10. The Contractor shall locate staging areas for construction equipment outside of areas in the jurisdiction of the USACOE or CDFG to minimize impacts to sandy creek benches.

Measure WW-11. Prior to final design, the TCA or implementing agency shall prepare a jurisdictional delineation documenting the Waters of the U.S. and wetlands, CDFG, and CCC jurisdictional impacts for the selected alternative.

Prior to final design, the TCA or implementing agency shall prepare a functional assessment of the wetland mitigation plan according to the tenets of the USACOE Regulatory Guidance Letter 02-2 to assure that the functions and values have been replaced and that no net loss of waters and wetland values occur. Habitat replacement guidelines shall be developed to identify and quantify habitats that will be removed along with the locations where habitats will be restored or relocated to ensure no net loss.

8.11 MITIGATION MEASURES RELATED TO WILDLIFE, FISHERIES AND VEGETATION

Measure WV-1. Prior to construction, the TCA or other implementing agency/agencies shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

Measure WV-2. During final design of the project, the TCA or other implementing agencies Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. TCA or other implementing agencies Environmental and Engineering Staff shall determine the implementation of those recommendations.

Measure WV-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, National Marine Fisheries Service (NMFS), CDFG, USACOE, RWQCB, FHWA and Caltrans for review ~~and approval~~ to the extent required by permit by such agencies.

The primary goal of the BRMP will be to ensure the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones. The BRMP shall contain at a minimum the following:

a. Identification of all Environmental Sensitive Areas (ESA). ESA are defined as sensitive habitats including, but not limited to, areas subject to the jurisdiction of the CDFG, USACOE, and USFWS; areas supporting endangered, threatened or rare species; and areas supporting vegetation communities described as sensitive.

b. Design of protective fencing (i.e., t-bar or yellow rope) around ESAs and the construction staging areas.

c. Specific procedures during construction for the protection of sensitive plant, amphibian, reptile, bird, and mammal species, including perimeters around drip line oak trees.

d. Locations of trees to be protected as wildlife habitat (roosting sites).

e. Procedures for topsoil preservation and erosion control.

f. A summary of the type and quantification of habitats to be removed.

g. For areas that will be restored, the quality of the adjacent habitat will be characterized. This characterization shall include species composition, density, coverage, and presence of non-natives. This characterization will provide a baseline to compare the success of the restoration. The site preparation plan for each restoration site will include:

- Sources of plant materials and methods of propagation.
- Site preparation (clearing, grading, weed eradication, soil amendment, topsoil storage), irrigation, planting (container plantings, seeding), and maintenance (weed control, irrigation system checks, replanting) of restoration areas. Specification of parameters for maintenance and monitoring of restoration areas, including weed control measures, frequency of field checks, and monitoring reports for temporary disturbance areas within the project right-of-way.
- Remedial measures to be taken if performance standards are not met.
- Methods and requirements for monitoring of the restoration efforts.
- Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within restoration areas.

h. Specific construction monitoring programs for sensitive species including Coulter's saltbush, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, western spadefoot toad, southwestern pond turtle, two-striped garter snake, and San Diego cactus wren.

i. Specific measures for the protection of sensitive habitats to be preserved within and adjacent to the right-of-way to ensure that construction does not increase the impacts. These measures will include, but are not limited to, erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements. Details of the erosion, siltation, and dust control mitigation measures will be outlined, and performance measures provided, in the Storm Water Pollution Prevention Plan (SWPPP).

j. Provisions for biological monitoring during construction activities to ensure compliance and success of each avoidance and minimization measure. The monitoring procedures will (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of biological monitor(s); and (4) identify reporting requirements.

Measure WV-4. During grading activities and/or construction operations, the Project Biologist shall conduct monitoring within and adjacent to sensitive habitats including installation of protective devices (silt fencing, sandbags, fencing, etc.), installation and/or removal of creek crossing fill, construction of access roads, vegetation removal, column installation, false work installation and removal, and other associated construction activities, as deemed appropriate by the Project Biologist.

Measure WV-5. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA and/or other implementing resource agencies.

Measure WV-6. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall attend preconstruction meetings with construction

foremen, bridge engineers, and the TCA or other implementing agencies to confirm that all environmental conditions are discussed. Monthly, or on an as needed basis, new construction personnel shall complete an educational program. Issues to be covered will include, but are not limited to, environmental measures for avoiding impacts to sensitive biological resources, ESAs, waste disposal, vehicle transportation routes, seasonal restrictions, fueling/maintenance restrictions, and other relevant topics.

Measure WV-7. In conjunction with final design, the Project Biologist shall work closely with the ~~project landscape architects (~~Contractor~~)~~ to develop native plant palettes for revegetation areas adjacent to the roadway that abut natural open space and will be implemented by the Contractor. Final landscape design plans, which will be approved by the TCA or other implementing agencies, shall reflect the following and shall be incorporated into the BRMP:

- The landscaping along the corridor in open space (non-urban) areas shall be a mix of native, non-invasive, drought tolerant plant species from the scrub, grassland, and chaparral communities. All plants used shall comply with federal, state, and county laws requiring inspection of infestation. The vendor shall provide certification of inspection from the County of Orange and/or San Diego department of agriculture. The Project Biologist shall also inspect all plants before accepting delivery.
- The landscaping community type installed shall be consistent with the plant communities that occur in the vicinity of the intended landscape area.
- Seeds, cuttings, and potted plants shall be collected from local plant material as appropriate, supplemented by material from native plant nurseries. The seed vendor shall furnish certification that the seed has been tested for purity by a certified seed laboratory and does not contain seed of any non-native, invasive species.
- Native California plant species found in the project area shall be used. Invasive, noxious weed, or non-native species identified on the State of California List of Noxious Weed Species or the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List shall not be used in landscaping along open space areas.
- All mulches used shall be free of invasive species seed.
- Landscape areas shall be subject to maintenance during plant establishment (i.e., non-native species removal) that will be directed by the Project Biologist. However, the landscape areas shall not be subject to performance standards and will not be subject to mitigation in the future if construction occurs.
- Temporary low-volume irrigation systems, using reclaimed water (where available), shall be included in the final design of the selected alternative.

Portions of the landscaped areas within the Caltrans maintenance area and adjacent to the roadway may be subject to fuel modification requirements, which may preclude the use of many project-indigenous species. In these instances, plant palettes may contain both the California native plant cultivars which will be purchased and indigenous plant species found in the project area. This is due to the limited number of indigenous plant species included within the Orange County Fire Authority Fuel Modification Plant List.

Measure WV-8. In conjunction with the development of final plans and specifications for construction, or other activities involving vegetation/habitat removal, the Project Biologist shall review and approve the contractor's map of all sensitive habitats (Environmentally Sensitive Areas, or ESAs) within 152.4 meters (500 feet) of the grading limits on the grading plans. ESAs are defined as sensitive habitats including, but not limited to, scrub; native grassland; riparian communities; and areas subject to the jurisdiction of the

CDFG, USACOE, and USFWS. The ESA maps shall be prepared by the construction contractor's qualified biologist and approved by the TCA or other implementing agencies. All ESAs to be avoided and performance standards established by the resource agencies shall be clearly noted on the grading, construction, and landscape plans. Additionally, the landscape plans shall indicate that plant materials shall be local southern Orange County native species.

Measure WV-9. Caltrans procedures shall be followed for the protection of ESAs. These procedures are: (1) no construction access, parking, or storage of equipment or materials will be permitted within marked ESAs or other jurisdictional areas; (2) to the maximum extent practicable, construction access points shall be limited in proximity to protected habitat; (3) waste, dirt, and trash shall not be deposited on protected habitat; (4) vehicle transportation routes shall be confined to the narrowest practicable area in areas adjacent to marked, protected habitats during construction/operations activities, (5) no construction personnel shall be permitted access to these areas except for the purpose of invasive species removal without the Project Biologist's approval, and (6) disposal of trash adjacent to ESAs shall be removed/emptied on a daily basis.

Measure WV-10. Prior to the commencement of grading activities or other activities involving vegetation/habitat removal, the Project Biologist shall field verify that protective fencing (t-bar/yellow rope and silt fencing when construction is upslope from sensitive habitat) has been installed along the disturbance limits. Additionally, the Project Biologist shall verify that all other Caltrans procedures for ESAs, identified and mapped on grading plans, have been installed by the construction contractor. These protective fencings shall be field verified by the Project Biologist on a regular basis.

Measure WV-11. To ~~partially~~ mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 hectares (1,182 acres) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 hectares (1,182 acres), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, nonwetland drainages, coastal sage scrub, coastal sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA or other implementing agencies and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1 (0.4 ha [one ac] for every 0.4 ha [one ac] lost), or other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program.

Measure WV-12. Impacts to native grasslands shall be mitigated at a 1:1 ratio through either preservation or restoration in designated open space (e.g., Upper Chiquita Canyon Conservation Easement). Should restoration be proposed, the restoration areas shall be located in areas deemed appropriate by the project biologist for native grassland restoration. Restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The restoration program for native grassland areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils.
- Site preparation specifications based on site analysis, including but not limited to grading, and weeding.
- Specifications for plant and seed material appropriate to the locality of the mitigation site and the timing of restoration activities.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.
- Restoration areas shall be considered successful at five years if the following standards are achieved:
- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Soil at the site exhibits a level of beneficial arbuscular mycorrhizal fungi that is comparable to an appropriate reference site, as demonstrated through soil infestivity potential.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if site meets success criteria as designated above earlier) to ensure successful establishment of native grassland vegetation within the restored areas. If success standards are not met, remedial measures, hydroseeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

Measure WV-13.

a. TCA will mitigate impacts to coast live oak and elderberry woodland communities by replacing, creating, restoring, or preserving (1) 0.4047 ha (one ac) of the identified resource for every 0.4047 ha (one ac) of the applicable resource impacted by the project, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Preservation and restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist.

b. The restoration program shall be detailed with the BRMP. Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community. The RMP will address issues of detention and settlement basin design for mitigation requirements in relation to water quality.

The following performance standards shall apply for the restoration of elderberry woodland areas. Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For coast live oak woodland, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

c. Monitoring shall be conducted for five years (or less if success criteria are met earlier) to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional seed and/or container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

Measure WV-14. In conjunction with construction activity, the Contractor shall control dust accumulation on natural vegetation at the source of disturbance by standard dust control measures (Mestre Greve Associates 2003).

Measure WV-15. Prior to final design of the selected alternative, the Project Biologist shall ensure that the location of the proposed wildlife bridges and culvert identified in the NES will provide adequate travel capabilities, contain adequate vegetation cover, have adequate daylight, and have appropriate fencing to encourage animals to use these underpasses. Upon selection of and refinement to, the selected alternative, smaller culverts and bridges that will be necessary to provide drainage and/or avoid impacts to jurisdictional areas shall also be designed, at the direction of the Project Biologist, to promote local and regional wildlife movement.

Measure WV-16. Prior to or in conjunction with the permit of application and/or process, Caltrans (Environmental and Maintenance) and resource agencies are to be given an opportunity for review and approval of the design of wildlife movement bridges, undercrossings, and culverts.

The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.

Wildlife bridges and culverts shall be designed to provide approaching animals a clear view of the habitat or horizon on the opposite site of the structure. The minimum width at the base of the wildlife bridge or culvert shall be six m (20 ft). The minimum vertical clearance shall be 5.2 m (17 ft) from the floor of the bridge/culvert to the bottom of the structure. No artificial lighting shall be installed or used in or around the bridge/culvert, unless otherwise required to meet Caltrans approval. The ground surface of the wildlife bridges and culverts shall be constructed with a slope ratio of 1:1.5 (V:H).

Dirt or natural vegetation substrates, rather than concrete or other human-made material, will be placed along the bottom of the bridges or culverts as reasonably feasible.

Vegetation naturally occurring on the side slopes to the entrances to the underpass will not be removed, to the extent feasible. Where natural vegetation at underpass entrances does not occur, is minimal, or has been removed as a result of bridge or culvert construction, vegetation shall be planted along the slopes that match the closest intact native vegetation. Low-lying shrubs and/or small trees native to the area will be planted to encourage wildlife use of the underpass.

The appropriate vegetation-type and quantity will be determined by the Project Biologist during construction of the underpass and will consist, at a minimum, of appropriate large shrubs and trees that will achieve at least 1.5 m (five ft) in height at maturity. The replanting will occur during the final stages of underpass construction or immediately following construction in the appropriate season for planting. The planting of vegetation at bridges over drainages shall be compatible with flood control requirements.

Materials such as rip-rap will not be used in or around the underpass entrances unless required by hydrology/hydraulic conditions.

Measure WV-17. Prior to operation of the corridor, ~~C~~chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the project biologist, TCA or other implementing agencies, USFWS, FHWA and Caltrans.

Wildlife fencing adjacent (100 m/328 ft) to wildlife movement underpasses will be inspected semiannually to identify and repair any gaps or tears in the fence caused by erosion, storm events,

vandalism, burrowing animals, or other means that could allow wildlife access onto the roadway surface. TCA or other implementing agencies will be responsible for the wildlife fencing for the first three years of completing the corridor, with Caltrans assuming responsibility thereafter.

Measure WV-18. Prior to operation of the corridor, road signs indicating the potential for deer and mountain lion movement shall be installed where indicated by the Project Biologist, due to the potential for wildlife to circumvent the wildlife fencing.

Measure WV-19. All bridges and culverts in the final design plan will be monitored for a period of three years to document the effectiveness of use ~~by target species~~. Target species to be evaluated shall be determined by the Regulatory permits, including: USFWS, ACOE and CDFG~~Project Biologist~~, specific to each bridge and culvert. Wildlife movement studies will be conducted at each underpass twice each year for at least eight weeks during the periods between March and May and between September and November. The studies will begin during the first full time period (beginning with March or September) occurring after the opening of the corridor. Reports will be prepared and submitted to the TCA or other implementing agencies annually. Based on results of surveys, recommendations to enhance wildlife use of underpasses shall be provided as appropriate (i.e., fencing modification, vegetation enhancement, or clearing, etc.).

Measure WV-20. In conjunction with final design, the TCA or other implementing agencies shall incorporate low-light design features, where feasible, adjacent to the following sensitive wildlife habitats: bridges or culverts within wildlife corridors, and scrub, riparian, and woodland communities. One or more of the following design options shall be used, if feasible, recognizing the constraints of roadway lighting requirements: (1) low-intensity street lamps, (2) low-elevation light poles, or (3) shielding by internal silvering of the globes or external opaque reflectors. Design features shall meet Caltrans approval.

Measure WV-21. During final design, the TCA or other implementing agencies, in coordination with the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where sensitive fish species do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

Measure WV-22. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance (for all sensitive plant species), and seed collection and salvage measures (for Coulter's saltbush, intermediate mariposa lily, southern tarplant, and many-stemmed dudleya) can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted during the appropriate time of year (i.e., during the flowering period for each species). Locations of sensitive plant species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.

Measure WV-23.

a. During the spring prior to grubbing or grading (or as determined by the Project Biologist), the limits of individual populations of Coulter's saltbush to be impacted shall be flagged and individual plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Prior to construction, seeds shall be collected from Coulter's saltbush plants from approximately June through

October from ripened seed heads, for later propagation, by personnel experienced in collection of native seed and native plant propagation. This seed shall be stored by a certified seed bank. An appropriate site within the upper Chiquita Canyon Conservation Area or other area shall be identified for the seeding of this species by the Project Biologist. The site shall have similar soils, slope, aspect, and microhabitat characteristics as the site with occupied Coulter's saltbush to support this species.

b. Prior to construction, 75 percent of the Coulter's saltbush plants within the area to be impacted shall be translocated to an appropriate site within the Upper Chiquita Canyon Conservation Area or within an appropriate open space dedication area within the region. Prior to the salvage operation, the number of Coulter's saltbush plants to be relocated shall be determined by the Project Biologist. The site can be the same or a different site than is used for the distribution of seed, but shall have similar soils, slope, aspect, and microhabitat characteristics as the site with occupied Coulter's saltbush. A bulldozer or loader shall be used to remove the top 30 cm (one ft) of soil, including all plant material which shall be loaded on flatbed trucks and transported to the receiver site. The Project Biologist shall coordinate all salvaging and relocation effort so that these operations occur in the appropriate season for maximum success.

c. Re-establishment of Coulter's saltbush will be monitored for five years. The survival of relocated plants will be recorded each year. Relocation will be considered successful when the survivorship of the relocated plants has stabilized with a 50 percent survival rate, and establishment of seedlings from the seeded material is documented.

Measure WV-24.

a. Intermediate mariposa lily seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and individual plants shall be marked with pin flags to facilitate locating individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation.

b. Seed collection shall be conducted during two successive years and the following three-year program shall be implemented to ensure the likelihood of success. Propagated mariposa lilies typically exhibit a germination rate of 80 percent; this percentage shall be used to determine the number of seeds to be collected to ensure production of the same number of plants as shall be impacted by construction. The propagated plants shall be grown for two years to allow the bulbs to reach optimal size prior to transplantation. The remaining seed not used for propagation from the first year of seed collection shall be divided in half with one-half hand broadcast during the first year and the remaining one-half hand broadcast the following year.

c. The propagated plants shall be introduced (over the three-year program), using at least a 2:1 ratio, into appropriate habitat in open space dedication areas, or as directed by the Project Biologist. Seeding shall occur in similar areas. Site selection shall be based on the presence of suitable habitat as determined by the Project Biologist. Bulbs from the propagated plants shall be planted at the end of the second growing season. The same program shall be followed for seed collected during the second year. Planting of bulbs and hand broadcasting of seed shall be performed in September or October.

d. Re-establishment of intermediate mariposa lily will be monitored for three years following initial planting of the propagated plants and seeding. The survival of the plants will be recorded each year. Establishment of the population will be considered successful when the survivorship of the relocated

plants has stabilized with a minimum 10 percent flowering in any one year of the monitoring period and establishment of seedlings from the seeded material is documented.

Measure WV-25.

a. Areas determined to have appropriate hydrology and soil chemistry (salinity) shall be reseeded with seed collected from populations of southern tarplant. Southern tarplant is restricted to saline, vernally mesic areas, often along the margins of estuaries or areas of high salinity. The Project Biologist shall identify candidate areas within open space areas that exhibit suitable conditions for introduction of the tarplant.

b. For one year prior to construction as feasible, the TCA or other implementing agencies shall have southern tarplant seed collected by personnel experienced in collection of native seeds. Seed collection shall be conducted during successive years from September through December. One-half of the first years' collected seed shall be hand broadcast at the reintroduction site with the remaining one-half stored in appropriate conditions for introduction the following year. Seed collected during the second season shall be stored for potential later use in the event that success standards are not met following the seeding during years one and two.

c. Because southern tarplant is an annual species, population numbers are expected to naturally fluctuate from year to year depending upon environmental conditions. Reseeded areas shall be monitored for three years following the initial seeding. Establishment shall be considered successful if plant densities during any of the three years of monitoring are comparable to densities of the impacted populations based on sampling quadrants. If established populations do not achieve comparable densities of impacted populations, additional reintroduction sites shall be identified and stored seed, obtained during the collection period, shall be introduced into additional sites over a two-year period (as in the initial reintroduction program described above). The additional sites shall be monitored for three years and shall be considered successful if population numbers at all of the sites achieve densities of impact areas. If established populations have not reached the density threshold following the addition of supplemental sites, further remedial measures shall be implemented as determined appropriate by the Project Biologist.

Measure WV-26.

a. Many-stemmed dudleya caudexes and seed shall be collected from populations to be impacted. Prior to grubbing or grading (or as otherwise determined by the Project Biologist), the limits of individual populations to be impacted shall be flagged and groups of plants shall be marked with pin flags to facilitate the locating of individual plants after flowering. Seed shall be collected in late July or early August from ripened seed heads, for later propagation or hand seeding, by personnel experienced in the collection of native seed and native plant propagation. Twenty-five percent of the seeds collected will be stored with Rancho Santa Ana Botanical Gardens (RSABG) by their standard agreement. The remainder of the seed will be used to establish the dudleya population as described below.

b. Caudexes shall be harvested for later planting, using appropriate screens or mesh and shall be conducted by individuals experienced in the salvage of many-stemmed dudleya. Where possible, caudexes will be salvaged by removing soil blocks containing marked dudleya. Both seed and collected caudexes shall be replanted and established at an appropriate site within an open space dedication area at the direction of the Project Biologist.

c. Monitoring of the established populations shall be conducted for three years. The propagated caudexes shall be introduced (over the three-year program), using at least a 1:1 ratio. Establishment

shall be considered successful if planted/seeded populations total 75 percent of the impacted populations and the population demonstrates recruitment of seedlings. If planted/seeded populations do not achieve 75 percent of the impacted populations, additional collection of seed shall be performed and additional caudexes will be propagated. If planted/seeded populations do not achieve 75 percent thresholds, further remedial measures shall be implemented as recommended by the Project Biologist.

Measure WV-27. Before entering or leaving the construction site, all construction equipment shall be inspected for evidence of invasive species and/or their seeds. Should any plants and/or seeds be detected, the equipment will be washed to ensure no invasive species and/or their seeds will be brought into or removed from the site.

Measure WV-28. Prior to construction, substantial populations of invasive plant species identified on the State of California List of Noxious Weed Species and the California Exotic Pest Plant Council Exotic Pest Plants (CalEPPC) of Greatest Ecological Concern in California List adjacent to the grading limits shall be mapped.

Measure WV-29. The Project Biologist shall prepare an invasive species management program to be incorporated into the BRMP. The program shall discuss the invasive species within landscaping and mitigation areas to be eradicated or controlled and eradication methods, which may include mowing, hand removal, or herbicide application. Removal of invasive plant species on the State of California List of Noxious Weed Species with Pest Rating A shall be required, at the direction of the Project Biologist. Eradication, containment, or control of all invasive plant species on the State of California List of Noxious Weed Species with Pest Rating B shall be at the discretion of the Project Biologist. The program shall also address invasive species identified in the California Exotic Pest Plant Council Exotic Pest Plants of Greatest Ecological Concern in California List and methods for their control. The potential for contribution of funds to such programs as the Arundo Removal Program to assist with removal of giant reed or other species from riparian habitats such as San Juan Creek shall also be addressed. The program shall also discuss monitoring of the landscaped and mitigation areas to ensure invasive species are properly controlled or eradicated. The maintenance of the mitigation sites along the corridor will be under the supervision of the Project Biologist (Executive Order 13112, Feb. 3, 1999).

Measure WV-30. Before and during construction (as appropriate), the Project Biologist shall conduct focused nocturnal and diurnal surveys within suitable habitat between February and May (a minimum of one week prior to the onset of construction) to determine the presence or absence of the western spadefoot toad in the impact area. Any western spadefoot toads found within the impact area will be relocated outside the construction area by the Project Biologist. In areas where western spadefoot toads were found, fencing or screening approximately 1.5 m (five ft) in height (with one m (three ft) buried below the surface) will be installed to prevent western spadefoot toads from entering the area after the onset of construction.

Measure WV-31. Before and during construction (as appropriate), the Project Biologist shall conduct focused diurnal surveys within suitable habitat between February and May to determine the presence or absence of the southwestern pond turtle in the impact area. Southwestern pond turtles observed prior to and during construction within and adjacent to the project footprint will be relocated outside of the construction area either upstream or downstream from the selected alternative by the Project Biologist. In areas where Southwestern pond turtles are found, fencing or screening approximately 1.5 m (five ft) in height (with 0.2 m [0.5 ft] buried below the surface) will be installed to prevent southwestern pond turtles from entering the area after the onset of construction. Fencing/screening will remain in place from June through August. "Southwestern pond turtles removed from the construction area will be relocated in such a way that the exclusion fences will not isolate any animals from the aquatic parts of their habitat."

Measure WV-32. During grading activities, two-striped garter snakes observed within and adjacent to the impact area will be relocated outside of the construction area either upstream or downstream of the selected alternative by the Project Biologist.

Measure WV-33. To minimize and offset adverse effects of the selected alternative on the San Diego cactus wren, suitable habitat for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for this species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of San Diego cactus wrens. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual San Diego cactus wrens to be wounded or killed during the clearing of habitat.

Measure WV-34. If grubbing activities between February and August (generally within the breeding season for San Diego cactus wren) are unavoidable, the following measures will be implemented:

a. Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of San Diego cactus wrens, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys.

b. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual San Diego cactus wrens on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area.

c. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.

Measure WV-35.

a. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied raptor nests and nest burrows (for burrowing owls). Occupied raptor nests/burrows shall be mapped on the construction plans by the Project Biologist. The Project Biologist will visit the nest/burrow site at the beginning of the nesting season to verify the use of the nests/burrows for that particular year.

b. If nesting activity begins at any nest site, then the active nest/burrow(s) will be protected as an ESA until nesting activity has ended to ensure compliance with Section 3503.5 of the CDFG Code. To protect any active nest/burrow sites, the following restrictions on construction are required between February and June (or until nests are no longer active as determined by the Project Biologist): (1) clearing limits will be established a minimum of approximately 150 m (500 ft) in any direction from raptor nests/burrows (or as otherwise determined by the Project Biologist); and (2) access and surveying will not be allowed within approximately 300 m (900 ft) of nests/burrows (or as otherwise determined by the Project Biologist).

Measure WV-36. Prior to construction activity, the Project Biologist shall survey the construction limits for the presence of occupied breeding coyote, bobcat, or mountain lion dens. In the event that an

occupied breeding coyote, bobcat, or mountain lion den is located within the impact area, then grading and construction operations shall be redirected temporarily around the den for a distance of approximately 150 m (500 ft) or as otherwise determined by the Project Biologist. The dens shall be resurveyed by the Project Biologist within the last month of the breeding seasons of these species to verify completion of the breeding cycle. Dens shall be removed during the non-breeding season only.

Measure WV-37. During the spring and summer (May through August) prior to the habitat removal, a qualified bat biologist shall survey all potential roosting habitat proposed for removal by the proposed construction. If a roost is found, the animals will be evicted and the resource sealed or removed so the bats cannot return and would be forced to find alternative roost sites. Tree removal shall be conducted between September and November to avoid hibernating bats (December through February) and maternity season (May through August) if feasible.

Measure WV-38. Impacts to floodplain sage scrub, riparian herb, and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities shall be mitigated at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation shall consist of creating the above mentioned community types in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils and hydrology.
- Site preparation specifications based on site analysis, including but not limited to grading, and weeding.
- Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites.
- Specifications for plant and seed material appropriate to the locality of the mitigation site.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.

Creation areas shall be considered successful if the following standards are achieved:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

Measure WV-39. TCA will mitigate impacts to riparian scrub, woodland, and forest communities by replacing, creating, restoring, or preserving (1) 0.40 ha (one ac) of the identified resource for every

0.40 ha (one ac) of the applicable resource impacted by the project or other ratio that compensates for functions and values, or (2) such other mitigation requirement that is necessary to meet the regulatory standards of an applicable state or federal regulatory program. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent in forest scrub communities and 5 percent in woodland communities.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

Measure WV-40. Impacts to open water shall be mitigated at a 1:1 ratio by the creation of wetlands and~~/or~~ impounded features to be incorporated into the herbaceous riparian habitat restoration~~ to compensate for values and functions~~. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area function properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.

8.12 MITIGATION MEASURES RELATED TO THREATENED AND ENDANGERED SPECIES

Measure TE-1. Prior to construction, the TCA or other implementing agencies shall designate a Project Biologist responsible for overseeing biological monitoring, regulatory compliance, and restoration activities associated with construction of the selected alternative in accordance with the adopted mitigation measures and applicable law.

Measure TE-2. During final design of the project, the Project Biologist shall review the design plans and make recommendations for avoidance and minimization of sensitive biological resources. TCA or other implementing agencies' Environmental and Engineering Staff shall determine the implementation of those recommendations.

Measure TE-3. A Biological Resources Management Plan (BRMP) shall be prepared prior to construction. The BRMP shall provide specific design and implementation features of the biological resources mitigation measures outlined in the resource agency approval documents. Issues to be discussed in the BRMP shall include, but are not limited to, resource avoidance, minimization, and restoration guidelines, performance standards, maintenance criteria, and monitoring requirements. The Draft BRMP shall be submitted to the USFWS, NMFS, CDFG, USACOE, RWQCB, FHWA and Caltrans for review ~~and approval~~ to the extent required by permit by such agencies.

The primary goals of the BRMP ~~will be~~are to ensure that (1) the long-term perpetuation of the existing diversity of habitats in the project area and adjacent urban interface zones and ~~prevent~~ minimize offsite or indirect effects; (2) the project is not likely to jeopardize the continued existence of any federally listed or state-listed endangered or threatened species; and (3) impacts to endangered and threatened species are minimized and mitigated to the maximum extent practicable. The BRMP shall contain at a minimum specific construction monitoring programs for thread-leaved brodiaea, arroyo toad, coastal California gnatcatcher, least Bell's vireo, and Pacific pocket mouse.

Measure TE-4. During grading activities and construction operations, the Project Biologist shall prepare a monthly biological monitoring letter report summarizing site visits, documenting adherence or violations of required habitat avoidance measures, and listing any necessary remedial measures. The report shall be submitted to the TCA or other implementing agencies.

Measure TE-5. Chain-link, wire mesh with metal poles, or similar fencing of at least 2.1 m (seven ft) in height will be erected on both sides of the selected alternative from the underpass entrance to a distance of at least 1.0 km (0.62 mi) along the corridor to "funnel" wildlife to the underpass area and to minimize wildlife attempts to cross the roadway surface. Fence height up to three m (10 ft) in height will be used in areas deemed appropriate by the Project Biologist, TCA or other implementing agencies, USFWS, FHWA and Caltrans. In addition, in areas known to support the arroyo toad, a permanent mesh fence shall be installed at the base of the chain-link fence for at least 1.0 km (0.62 mi) to keep the toads from entering onto the roadway surface.

The width and the height of the wildlife bridges specified in this mitigation measure are those provided by Caltrans as minimum standards. This approach is appropriate and such detail can be provided during further discussions and only for the selected project. To demonstrate the success of this approach, the TCA has monitored seven wildlife undercrossings during the fall and spring of each year since 1999. The wildlife undercrossings are along the Foothill and Eastern Transportation Corridors and consist of bridges as well as large diameter culverts. Methods used to document the presence and diversity of wildlife using the undercrossings include scent stations, spotlight surveys, general scat surveys, and direct observations. The data have shown that there is a considerable amount of wildlife within the study area using the

undercrossings. The wildlife observed using the undercrossings includes mountain lions, bobcats, coyotes, gray foxes, and mule deer. This usage demonstrates the overall success of the undercrossings in allowing wildlife continued movement throughout the region. In summary, preliminary results indicate that wildlife is continuing to use the undercrossings along the Toll Roads.

Measure TE-6. Prior to construction of the selected alternative, focused sensitive plant species surveys shall be conducted to determine the distribution of sensitive plants within the impact area of the selected alternative so appropriate avoidance, and seed collection and salvage measures for thread-leaved brodiaea can be implemented. This measure will ensure that the biologist obtains the current onsite conditions, just prior to construction, to maximize avoidance. Surveys shall be conducted from March through ~~May~~ June which is the blooming period for this species. Locations of thread-leaved brodiaea species shall be mapped and shown on construction drawings and identified as ESAs. During final design, temporary access roads will be sited with the approval of the Project Biologist so as to avoid or minimize impacts to sensitive plant populations.

Measure TE-7.

a. Prior to construction (~~i.e.,~~ e.g., clearing, grubbing or grading), focused surveys for the thread-leaved brodiaea shall be conducted during the flowering period for this species (approximately ~~May~~ March through ~~July~~June). The locations of plants identified within the disturbance limits shall be recorded with a Global Positioning System (GPS) unit with sub-meter accuracy. The soils containing thread-leaved brodiaea shall be tested to determine soil texture, and organic matter, and transported to a native plant nursery for germination and propagation.

b. Prior to construction, soil containing thread-leaved brodiaea corms within the impact area shall be collected ~~from the specific locations where thread-leaved brodiaea plants were observed the prior spring~~ by personnel experienced in the salvage of corms. Areas of soil 0.6 m by one m by 0.6 m (two ft by three ft by two ft) deep or one m by 1.3 m by 0.6 m (three ft by four ft by two ft) deep shall be collected and transported for placement in an appropriate translocation site selected by the Project Biologist. The translocation site shall be located in a conservation area within an open space dedication area within the region and shall have similar soils, aspect, slope, and hydrology to the donor site (i.e., the site ~~where~~ from which thread-leaved brodiaea ~~will be~~corms were collected).

c. Relocation success will be monitored for five years. The number of relocated plants that will emerge in any one year is variable and will depend on seasonal rainfall. Relocation will be considered successful when 10 percent of the relocated population emerges and sets viable seed in any monitoring year. The success criteria may vary as determined by the Project Biologist in consultation with botanists and USFWS staff with recent experience in brodiaea transplantation methodologies in the region.

Measure TE-8. To avoid impacting vernal marsh FEVM-16 and Riverside fairy shrimp from construction activities, this area shall be flagged and mapped. All construction roads and other construction related activities shall be redirected around this feature. The watershed which supplies this marsh shall also be flagged for avoidance and enclosed with silt fencing per the direction of the Project Biologist to ensure that erosion/ground disturbance does not compromise water quality within the pool. Silt fencing shall remain intact for the duration of construction and until all disturbed soils have been stabilized. Following removal of the silt fencing, fiber rolls, or similar erosion control devices shall be placed around the pool to filter incoming runoff and reduce the potential for siltation or water turbidity until all earth moving activities have ceased and landscaping installed. See also RMP for all mitigation measures.

Measure TE-9. During final design, the TCA or other implementing agencies, ~~in coordination with~~as described in the RMP, shall design, construct, and/or maintain any structure/culvert placed within a stream where endangered or threatened fish do/may occur such that it does not constitute a barrier to upstream or downstream movement of aquatic life, or cause an avoidance reaction by fish that impedes their upstream or downstream movement. This includes, but is not limited to, the supply of water at an appropriate depth for fish migration.

Measure TE-10. An Arroyo Toad Resource Management Plan (ATRMP) will be prepared. The ATRMP will be incorporated into the BRMP, and action items identified in the plan will be implemented by TCA and monitored by the Project Biologist. The plan shall include measures detailing how the impact area will be surrounded with a silt fence enclosure, ~~from which~~and how arroyo toads will be removed and relocated from the construction impact area during the breeding season (when they are detectable by vocalizations) and placed in suitable habitat either upstream or downstream of the selected alternative during construction. The ATRMP will identify areas of collection, suitable areas for temporary ~~storage~~housing , and restoration guidelines to be in place prior to release of ~~the~~ toads to their original location. The plan shall by submitted to ~~and approved by~~ the USFWS to the extent required by such agency. The locations of areas known to support arroyo toads shall be identified in the ATRMP and on the ESA maps to comply with the requirements of the biological opinion.

Measure TE-11. Prior to initiating any ground-disturbing activities in occupied/suitable habitats, or habitats proximal to suitable or occupied habitats for arroyo toad, exclusionary fencing shall be installed around the perimeter of the construction area. Fencing or screening approximately 60 cm (two ft) in height (30 cm [one ft] of which will be buried below the surface) shall be installed to prevent arroyo toads from entering the area after the onset of construction. The fencing will be installed at least 14 days prior to the initiation of work and must be made of a material appropriate to preclude any arroyo toads from entering the construction area. Fencing will be removed each winter during construction and at the end of project construction. Vehicle use will be restricted within areas known to support populations of the arroyo toad ~~as reflected~~that are shown on the ESA maps.

Measure TE-12.

a. The Project Biologist shall conduct three focused arroyo toad surveys within the fenced construction site for arroyo toads a minimum of 14 nights prior to initiating project construction. If climatic conditions are not appropriate for arroyo toad movement during the surveys, the Project Biologist may attempt to illicit a response from the arroyo toads, during nights with temperatures of 13°C (55°F) or greater, by spraying the project area with water to simulate a rain event. During construction, arroyo toads surveys will be performed a minimum of once per week and on all nights where the combination of rain/humidity and temperature would increase the movement of arroyo toads.

b. If arroyo toads are found with the construction side of the exclusionary fencing, arroyo toads will be removed by the Project Biologist and relocated from the construction impact area and placed in suitable habitat either upstream or downstream of the construction area as outlined in the Arroyo Toad Resource Management Plan.

Measure TE-13. The Contractor shall locate staging areas for construction equipment outside of areas within the jurisdiction of the USACOE or CDFG known to support arroyo toad to minimize impacts to sandy creek benches that may provide aestivating habitat for the arroyo toad to avoid taking any individuals.

Measure TE-14. When conducting construction and/or other ground-disturbing activities in arroyo toad-occupied habitats or in adjacent upland areas proximal to known arroyo toad habitats, the Contractor shall cover all grubbing spoils or other grading debris with plastic sheeting to prevent arroyo toads from opportunistically burrowing in these exposed and friable soil piles. This sheeting must be placed on the soil piles before sunset and shall remain on (during nighttime hours) for the duration of the construction/ground disturbing activities. The areas where these measures must be implemented shall be determined by the Project Biologist in coordination with the USFWS. If the sheeting does not remain in place due to unforeseen circumstances, (inclement weather or other disturbances) a biologist will monitor the soil piles for the arroyo toad. Any arroyo toads found within the soil piles will be removed and relocated as outlined in the Arroyo Toad Resource Management Plan.

Measure TE-15. The Contractor shall not drive upon construction roads or other roads/surfaces adjacent to arroyo toad occupied habitat after sunset. If the site must be accessed, a biologist permitted to handle arroyo toad must be present in the vehicle to identify any individuals on the road and the vehicle shall not exceed a speed of 16 km per hour (10 mi per hour) within these areas.

Measure TE-16. Prior to construction, the Project Biologist shall document the area of pools and gravel bars within the temporary disturbance areas of creeks occupied by the Arroyo Toad. At the conclusion of construction, the TCA or other implementing agencies shall construct artificial pools and gravel bars within these temporary disturbance areas ~~of creeks that are known to be occupied by arroyo toad~~. The artificial pools and gravel bars shall provide potential breeding and aestivating habitat for arroyo toad. These areas will be identified and established by the Project Biologist in the BRMP. The artificial pools and gravel bars shall be equal to or greater in size than those areas impacted by project implementation. Because of the natural flooding and scouring conditions of the creeks within the study area, no maintenance of these areas will be required. The construction of these features shall not preclude required Caltrans bridge maintenance. Plans shall be submitted to USFWS for review and approval, to the extent required by such agency, prior to implementation.

Measure TE-17. Prior to the arroyo toads' re-establishment to their original locations, specific activities to enhance their habitat and improve their potential for re-occupation will be implemented. These measures include the removal (up to 15 days in advance of the re-establishment), to the extent practicable, of predatory species such as bullfrogs, western mosquito fish, yellow bullheads, bluegill, and additional predatory invertebrates, amphibians, and introduced fish species. Plans shall be submitted to USFWS for review and approval prior to implementation to determine compliance with the biological opinion.

Measure TE-18. To minimize and offset adverse effects of the selected alternative on the coastal California gnatcatcher, habitat suitable for this species (as determined by the Project Biologist) shall be grubbed from the project footprint area from September to February if feasible (generally outside the breeding season for these species). The Project Biologist shall survey the suitable habitat within the areas to be grubbed one day prior to any vegetation disturbance to determine the location and numbers of coastal California gnatcatchers. The Project Biologist will be on-site and present during all suitable habitat clearing and removal activities to minimize the potential for individual coastal California gnatcatchers to be wounded or killed during the clearing of habitat.

Measure TE-19. If grubbing activities are unavoidable during the coastal California gnatcatcher breeding season, which is between February and August, the following measures will be implemented:

Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of coastal California gnatcatchers, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be

conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing seven days prior to the initiation of surveys.

If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual coastal California gnatcatchers on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area.

During construction, no activity will occur within approximately 150 m (500 ft) of active nests.

Measure TE-20. To minimize and offset adverse effects of the selected alternative on the least Bell's vireo, suitable habitat for this species, as determined by the Project Biologist, shall be grubbed from the impact area from 16 September to 14 March (generally outside the breeding season for this species), if feasible.

Measure TE-21. If grubbing activities between 15 March and 15 September (generally within the breeding season for the least Bell's vireo) are unavoidable, the following contingency measures will be implemented:

a. Surveys by the Project Biologist will be conducted a minimum of three times on separate days after the initiation of the nesting season to determine the presence of least Bell's vireos, nest building activities, egg incubation activities, or brood rearing activities. These surveys will be conducted within the week prior to the initiation of brushing, grading, or other construction activities. One survey will be conducted the day immediately prior to the initiation of work. The USFWS will be notified in writing prior to the initiation of surveys.

b. If no nest(s), nesting behavior, or brood rearing activities are detected, work may commence. Prior to and during work activities, the Project Biologist will locate any individual least Bell's vireos on-site and direct operators to begin in an area away from the birds. The pattern of brushing/grubbing activities will be designed to optimize opportunities for flushed birds to be directed towards the open space areas in the vicinity of the impact area.

c. During construction, no activity will occur within approximately 150 m (500 ft) of active nests.

Measure TE-22.

a. To minimize indirect disturbance of nesting least Bell's vireos, the Contractor will not engage in any construction activities within 61 m (200 ft) of occupied least Bell's vireo habitat between the hours of 0600 and 1100 every day during the peak nesting period of 1 April to 15 July of any given calendar year if said construction activities result in noise readings greater than 60 dBA measured at the edge of the territory of the vireo in the area.

b. For construction, temporary or permanent noise barriers may be installed under the direction of the Project Biologist and USFWS to reduce noise levels. The Project Biologist shall be responsible for monitoring the noise level.

c. The Project Biologist shall be responsible for all noise monitoring reports which shall include, at a minimum, (1) baseline noise measurements at known least Bell's vireo nesting sites within riparian communities within the impacts area, prior to construction, (2) the effect construction noise has on nesting pairs in the vicinity of construction, (3) baseline noise measurements at known nesting

adjacent to the alignment, prior to traffic, and (4) the effect traffic noise has on nesting pairs in the vicinity of the selected alignment. These reports will be submitted to the TCA or other implementing agencies.

Measure TE-23. During final project design, an undercrossing shall be provided in the vicinity of the San Mateo North population of the Pacific pocket mouse for any alternative selected that occurs within this area. The undercrossing shall allow for potential movement of Pacific pocket mice under the alignment. The exact placement and design of the undercrossing shall be determined by the Project Biologist, in ~~consultation~~ coordination with MCB Camp Pendleton and ~~the~~ with USFWS during the Section 7 consultation.

Measure TE-24. Prior to the initiation of construction in areas within or proximal to known sites occupied by the Pacific pocket mouse, a Pacific Pocket Mouse Resource Management Plan (PPMRMP) shall be prepared and submitted to the USFWS for review ~~and approval~~ to determine compliance with the biological opinion and incorporated into the BRMP. This plan shall identify the strategies available for minimizing impacts ~~and measures to restore impacted suitable habitat~~to comply with the no jeopardy standard of Section 7(a)2 of the Federal Endangered Species Act.

The PPMRMP shall identify conservation measures. These conservation measures will be consistent with the Biological opinion issued by the USFWS. Potential conservation measures may include:

a. Temporary construction measures—including temporary fencing:

- Invasive species control
- Habitat management and enhancement
- Predator control
- Control of public access
- PPM population monitoring

Implementation of these conservation measures will be completed in conjunction with USFWS and the landowner, Marine Corp, Camp Pendleton.

b. Project Design Features—PPM

- Barriers along the boundary
- Minimization of roadway lighting
- Minimization of fire risk

Measure TE-25. To ~~partially~~ mitigate impacts, the TCA has identified additional habitat preservation and restoration activities in the Upper Chiquita Canyon Conservation Area. The Upper Chiquita Canyon Conservation Area consists of approximately 478.7 ha (1,182 ac) created by the TCA to mitigate biological impacts resulting from construction of the FTC-N. Of these 478.7 ha (1,182 ac), 327 credits have been set aside as a mitigation bank for future project impacts. The Conservation Area was originally under substantial threat for development and the resources within the Area have been conserved, but otherwise would have been lost or substantially degraded. In addition, the Upper Chiquita Canyon Conservation Area provides opportunities for preservation activities consisting of additional habitat for oak woodland and sensitive plant species. There are also opportunities for restoration activities on site that would include additional acres of oak woodland, nonwetland drainages, coastal sage scrub, coastal

sage scrub/native perennial grassland ecotone, and native perennial grassland habitats. These opportunities for preservation and restoration activities would also serve to mitigate impacts on sensitive plants for the SOCTIIP Alternatives.

a. Impacts to scrub communities (and all sub-types thereof except floodplain sage scrub) shall be mitigated through the use of scrub mitigation credits in the Upper Chiquita Canyon Conservation Easement area and additional preservation (if necessary). The Upper Chiquita Canyon Conservation Easement area currently contains 327 mitigation credits approved by the USFWS and CDFG. The scrub areas impacted by the selected alternative will be mitigated at a credit to hectare ratio of 1:0.40 (one Upper Chiquita Canyon Conservation Easement mitigation credit for every 0.40 ha impact or one Upper Chiquita Canyon Conservation Easement mitigation credit for every 1.0 ac lost).

b. Any additional scrub areas restored within the Upper Chiquita Canyon Conservation Easement area may be added to the credit total, with the approval of the USFWS, and applied to the mitigation ratio accordingly. The TCA or other implementing agencies and the USFWS shall determine the criteria for the establishment of the new credits for the restored areas pursuant to the Upper Chiquita Canyon Conservation Bank Agreement which was entered into with the USFWS and the CDFG.

c. Any scrub areas that are impacted by the selected alignment and that have not been mitigated by the use of the Upper Chiquita Canyon Conservation Easement mitigation credits (i.e., impact area exceeds mitigation credits available) shall be mitigated through preservation at a ratio of 1:1.

Measure TE-26. Impacts to native grasslands shall be mitigated at a 1:1 ratio through either preservation or restoration in designated open space (e.g., Upper Chiquita Canyon Conservation Easement). Should restoration be proposed, the restoration areas shall be located in areas deemed appropriate by the Project Biologist for native grassland restoration. Restoration areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The restoration program for native grassland areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils.
- Site preparation specifications based on site analysis, including but not limited to grading and weeding.
- Specifications for plant and seed material appropriate to the locality of the mitigation site and the timing of restoration activities.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.

Restoration areas shall be considered successful at five years if the following standards are achieved:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Soil at the site exhibits a level of beneficial arbuscular mycorrhizal fungi that is comparable to an appropriate reference site, as demonstrated through soil infestivity potential.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 percent confidence limit.

- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if site meets success criteria as designated above earlier) to ensure successful establishment of native grassland vegetation within the restored areas. If success standards are not met, remedial measures, hydroseeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

Measure TE-27. Impacts to floodplain sage scrub, riparian herb, and other sub-types within the Vernal Pools, Seeps, and Wet Meadows and Marsh plant communities (as defined in Section 5.0 of the NES) shall be mitigated at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation shall consist of creating the above mentioned community types in the approximate proportions in which they currently exist within the impact area or as otherwise required by the resource agencies. Creation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area. The creation program for the above areas shall be included in the BRMP and shall include the following measures.

- Site analysis for appropriate soils and hydrology.
- Site preparation specifications based on site analysis, including but not limited to grading and weeding.
- Soil and plant material salvage from impact areas, as appropriate to the timing of impact and restoration as well as the location of restoration sites.
- Specifications for plant and seed material appropriate to the locality of the mitigation site.
- Specifications for site maintenance to establish the habitats, including but not limited to weeding and temporary irrigation.
- Creation areas shall be considered successful if the following standards are achieved:
- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native species is comparable to the absolute cover of native species at an appropriate reference site within an 80 pe*rcent confidence limit.
- An index of species diversity of the restored and/or created habitat areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for five years (or less if success criteria are met as designated above earlier) to ensure successful establishment of hydrophytic vegetation within the restored/created areas by wetland species. If success standards are not met, remedial measures, seeding, or introduction of container stock shall be implemented as directed by the Project Biologist.

Measure TE-28. Impacts to riparian scrub, woodland, and forest communities (as defined in Section 5.0 of the NES) shall be mitigated by mitigation of such communities at a 1:1 ratio or other ratio that compensates for functions and values. Mitigation areas shall occur within dedicated open space areas including, but not limited to, the Upper Chiquita Canyon Conservation Easement area as determined by the Project Biologist. The restoration program shall be detailed with the BRMP.

Prior to restoration of these communities, hydrological testing and monitoring of the creation site shall be conducted to determine that sufficient hydrology exists to support the community. If necessary, a temporary irrigation program shall be incorporated into the mitigation design to ensure successful establishment of the community.

The following performance standards shall apply for the restoration of these areas (except for southern coast live oak riparian forest). Restoration shall be considered successful if:

- The site does not require substantial maintenance for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 70 percent.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

For southern coast live oak riparian forest, the following standards shall apply:

- The site does not require substantial maintenance and meets the success criteria established for this community for at least two consecutive years during the monitoring period.
- The site must exhibit evidence of natural recruitment of native species, including plant reproduction and/or setting of seeds.
- Absolute percent cover of native upper and mid canopy species is 50 percent, with five percent cover from oak trees.
- An index of species diversity of the restored areas is statistically comparable to an appropriate reference site within an 80 percent confidence limit.

Monitoring shall be conducted for a minimum of five years to ensure successful establishment of the restored areas. If success standards are not met, remedial measures including introduction of additional container stock and adjusting of irrigation shall be implemented as directed by the Project Biologist.

Measure TE-29. Impacts to open water shall be mitigated by the creation of wetlands and/or impounded feature to be incorporated into the herbaceous riparian habitat restoration to compensate for functions and values. The open water mitigation areas shall be located at a site determined by the Project Biologist to have hydrology sufficient to support the desired open water feature. Appropriate hydrological and soils testing shall be performed to ensure that the created open water area function properly. Creation of open water areas shall be maintained as part of the herbaceous riparian habitat restoration.

8.13 MITIGATION MEASURES RELATED TO WILD AND SCENIC RIVERS

No mitigation required.

8.14 MITIGATION MEASURES RELATED TO COASTAL BARRIERS

No mitigation required.

8.15 MITIGATION MEASURES RELATED TO COASTAL ZONE

Mitigation measures for impacts in the Coastal Zone are found in the following topical areas for which coastal zone permitting is concerned: biological, cultural, paleontological and visual resources. Refer to Sections 8.10 (Mitigation Measures Related to Wetlands and Waters of the United States), 8.12 (Mitigation Measures Related to Threatened and Endangered Species), 8.16 (Mitigation Measures Related to Historic and Archaeological Resources), 8.18 (Mitigation Measures Related to Visual Resources) and 8.23 (Mitigation Measures Related to Paleontological Resources) for a description of these measures.

8.16 MITIGATION MEASURES RELATED TO HISTORIC AND ARCHEOLOGICAL RESOURCES

Measure AR-1. Prior to the start of construction activity, a qualified archaeologist shall be retained by the TCA or other implementing agency/agencies to perform subsurface test level investigation and surface collection ~~on sites potentially eligible for~~ for all archaeological sites that have not had formal determinations of eligibility for listing on the NRHP. The test level report evaluating the site shall include discussion of significance (scientific data potential), integrity (location, physical characteristics, and condition), mitigation recommendations, and cost estimates. Final mitigation shall be carried out based on the report recommendations, input by FHWA and SHPO, and a determination as to the site's disposition by the TCA with concurrence of the FHWA. Possible recommendations made by a qualified archaeologist include, but are not limited to, preservation, data recovery, or no mitigation necessary. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during the evaluation excavations for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

Measure AR-2. In conjunction with the final design, the TCA or other implementing agency/agencies shall retain a qualified archaeologist to complete a suitable historic property treatment plan for all eligible cultural resources that will be impacted by the SOCTIIP ~~conduct data recovery of the archaeological resources in the construction area~~. A final report of the data recovery operation shall be submitted to the TCA, Caltrans and FHWA prior to any grading in the archaeological site areas. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during the treatment program for sites within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

Measure AR-3. Prior to the start of construction activity, the TCA or other implementing agency/ agencies shall retain a qualified archaeologist. The archaeologist shall establish procedures (monitoring plan) for archaeological resource surveillance, and procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the cultural resources as appropriate. The archaeologist shall also be present at the pregrading conference to explain the established procedures based on a preapproved monitoring plan. If additional or unexpected archaeological resources are discovered, a qualified archaeologist shall determine appropriate actions, in cooperation with the TCA, for testing and/or data recovery. The archaeologist shall submit a follow-up report to the TCA that shall include the period of inspection, an analysis of any artifacts found, the results of any testing or data recovery, and the present repository of the artifacts. In addition, TCA or other implementing agency/agencies shall retain a qualified Native American monitor to be present during ground disturbing construction activities within the project area. Preference will be given to experienced Native American monitors who are members of the local tribal groups identified as having cultural ties to the study area.

Measure AR-4. In conjunction with the final design, the TCA will investigate various design features including options for reversibility of design, i.e., avoidance of core areas, minimization of cut, maximization of fill, bridge structure on columns, etc., in the vicinity of the Village of Panhe (within the San Mateo Archaeological National Register District) could assist in minimizing impacts to the District as a result of the selected Alternative. If it is determined that a design feature can feasibly assist in minimizing impacts to the District, the TCA will incorporate this feature in the final design for the selected alternative.

Measure HR-1. Prior to the start of construction activity (project related demolition), the TCA or other implementing agency/agencies shall retain a qualified architectural historian/historical architect to record National Register of Historic Places listed or eligible buildings, structures, and objects that will be removed by the Alternative, according to Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards. The documentation will be performed in consultation with the National Park Service (NPS), and the State Office of Historic Preservation (OHP). HABS/HAER documents utilize the Secretary of the Interior's *Standards for Architectural and Engineering Documentation*, which is linked to the Secretary's *Guidelines for Architectural and Engineering Documentation* and the HABS/HAER Procedures Manual which provide more specific guidance and technical information. The level of documentation for each individual resource or district will be determined in consultation with NPS, but may include:

Drawings: a full set of measured drawings depicting existing and historic conditions.

Photographs: photographs with large format negatives of exterior and interior views, photocopies with large format negatives of select existing drawings or historic views where available.

Written data: history and description. HABS/HAER recordation for each resource should update and augment any previously completed documentation of the resource. Documentation should be completed within 180 days of the FHWA approval of the SOCTIIP project. The product should be submitted to the NPS for review and addition to the HABS/HAER collection maintained by the Library of Congress. Copies of the document should also be provided to local institutions or agencies (planning/community development departments, public libraries, historical societies) and made available for public review.

Measure HR-2. The TCA or other implementing agency/agencies in consultation with local agencies and the SHPO, shall create a permanent display for historic buildings within a local facility readily accessible to the public, (such as such as public libraries, museums, or schools) that will interpret the history and construction of the resource and its historical context. The interpretive display may consist of durable panels and should include items such as: reproductions of historical photographs, original construction drawings, or other drawings, drawings and photographs that are part of HABS/HAER documentation completed as part of the mitigation measures, and explanatory text. Items such as reproductions or actual architectural elements, discarded hardware, or other items used in the original construction may also be incorporated, as may oral histories collected from individuals associated with the resource in text, audio, and/or video format. The interpretive display should be completed and in place prior to initiation of operations on any part of the selected corridor.

Measure HR-3. The TCA or other implementing agency/agencies in consultation with the local agencies and SHPO, shall create an internet website on the worldwide web that will interpret the resource impacted by the proposed construction. The website should include written explanatory text discussing the history and context of the resource, historic and contemporary photographs of the resource, drawings and/or diagrams as appropriate. It may also include oral histories collected from individuals associated with the resource, in text, audio, and/or streaming video format. The website may be a stand alone site, or linked

to existing websites maintained by local or county historical organizations. The interpretive website should be completed and accessible prior to initiation of operations on the selected corridor.

Measure HR-4. In the event that design of the project requires the demolition of any Federal, State, or locally listed or eligible historical resource, the TCA or other implementing agency/agencies shall, with the approval of the responsible municipal agency, salvage any historical elements or fittings of the structure(s) which may be useful for reuse or display prior to the commencement of any alteration, grading, or demolition of the site.

Measure HR-5. If an historic resource is retained, the impacts from project construction which change the resources historic fabric, appearance or setting should be mitigated through a policy of adherence to *The Secretary of the Interiors Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (1995) and/or *The Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1995)* whenever repair or rehabilitation work is required.

8.17 MITIGATION MEASURES RELATED TO HAZARDOUS MATERIALS AND HAZARDOUS WASTE SITES

Measure HM-1: Testing For Contaminated Groundwater. Groundwater testing for the presence of pesticides, nitrates, metals and petroleum hydrocarbons will be required by the Regional Water Quality Control Board (RWQCB) prior to construction in all areas where excavation may extend into groundwater based on final design criteria. All wastewater generated during construction will meet all applicable requirements of the RWQCB prior to disposal.

Measure HM-2: Aerially Deposited Lead. In areas immediately adjacent to existing roads proposed for construction (I-5, arterials), soil samples will be collected and analyzed for lead concentrations during final design, consistent with "Lead Testing Recommendations for Districts with Aerially Deposited Lead (ADL) Variance" (Caltrans 2001), "Invoking the Aerially Deposited Lead Variance" (Caltrans, no date), DTSC "Variance 00-H-VAR-07," and Standard Special Provision SSP 19-900, S5-740. If lead-affected soil is found, the results/conclusions will be included in the Site Investigation Report, the Standard Special Provisions (SSP) and the Material Information Handout (MIH). The SSP and MIH will be incorporated in design specifications and will include measures to safeguard public health before and during construction. Depending on the concentrations and volumes encountered, excavation and disposal of lead-impacted soil may be required. If such excavation is indicated, procedures for handling and disposal will be included in the design specifications. Soil contaminated with ADL will be removed and disposed of, in concurrence with the variance issued to the California Department of Transportation (Caltrans) by the California Department of Toxic Substances Control (DTSC). This material may be reused for embankment fill, retaining wall backfill and/or capped with an appropriate amount of clean fill material. Specifically, DTSC granted Caltrans a variance in 2000 to allow for the use of some lead contaminated soils for fill and backfill during construction of freeway improvements, provided that Caltrans' handling and use of those soils are consistent with the conditions, limitation and requirements described in that variance. A copy of that variance is available for review at the Caltrans District 12 office. This variance is valid through September 22, 2005 per Caltrans and will need to be renewed. It is anticipated that all of the lead contaminated soil in the SOCTIIP study area affected by the Alternatives would be used during the construction of the proposed project. Although there is not expected to be the need to remove and dispose of any lead contaminated soil off site during construction, any excess contaminated soil would be disposed of consistent with all applicable federal, state and local regulations.

Measure HM-3: Agricultural Lands. Prior to grading in agricultural areas, a soil sampling plan and a worker health and safety plan will be prepared and implemented to identify areas of chemically affected

soils to minimize the risk of exposure to worker safety during construction. The soil sampling plan will include appropriate sampling criteria for screening excavated soils by profiling for reuse or disposal, as appropriate. Surface soil samples within the disturbance limits will be collected and analyzed for pesticide and herbicide residues. If elevated residue levels are detected, a Risk Management Plan (RMP) for the impacted soil will be developed and implemented during construction.

Measure HM-4: Abandoned Oils Wells or Test Borings. The abandoned oil wells and test borings will be positively located and any remaining components (such as steel surface casings) will be removed before grading for the SOCTIIP build Alternatives. In the event that an undocumented oil well or test boring is encountered during construction of any SOCTIIP Alternative, reabandonment of the well or boring will be implemented to comply with applicable California Department of Oil and Gas (CDOG) requirements.

Measure HM-5: Asbestos Containing Building Materials., Consistent with the requirements of the South Coast Air Quality Management District (SCAQMD), asbestos sampling and notification will be implemented prior to any demolition or renovation of existing bridges, road structures or buildings. All asbestos contain building waste materials will be properly handled and disposed of consistent with all applicable federal, state and local regulations. Formal notification to SCAQMD will be made at least 10 days before any demolition work, regardless of whether or not asbestos is known to be present.

Measure HM-6: Hazardous Materials in Highway Infrastructure. If any existing thermoplastic or painted traffic stripes on existing roads are proposed for removal, testing of those stripes will be performed prior to construction to assess the level of lead and chromium. The testing will identify specific actions that will be implemented to safely remove and dispose of these stripes. It is also possible that some components of bridges or other highway infrastructure may include asbestos-containing materials (ACMs). Building materials in all structures slated for demolition will be surveyed for asbestos content before demolition begins and any materials found to be ACMS will be removed (abated) before demolition, as described in measure HM-5.

Measure HM-7: Construction Related Hazardous Materials. All construction activities will be required to comply with existing federal, state and local regulations regarding the handling, use, storage and disposal of hazardous materials, including specific regulations on response in the event of accidental release.

Measure HM-8: Hazardous Materials Associated with Existing Utilities. If leakage or damage from existing utilities is identified during construction, appropriate containment and remedial measures will be implemented, as necessary, in consultation with the affected utility provider and in compliance with existing local, state and federal regulations.

Measure HM-9: Alignment Specific Database Review. During final design for the selected Alternative, an updated regulatory database report will be obtained and regulatory records for identified sites of concern, such as leaking underground storage tank locations, will be reviewed. The intent of obtaining and reviewing this updated information will be to evaluate changes in, or the progress of, ongoing monitoring and remediation activities at those properties within or immediately adjacent to the disturbance limits for the selected Alternative. The results of this additional database and records review will be used in developing the final construction plans and schedules.

Measure HM-10: Underground Storage Tanks. The removal of underground storage tanks affected by the SOCTIIP build Alternatives will be coordinated by the facility tenant or property owner (which could be the current owner, the TCA, other implementing agency, Caltrans or the applicable local jurisdiction), and regulatory closure would be directed and approved by the applicable local oversight regulatory

agency. These local oversight regulatory agencies may include the Orange County Health Care Agency, San Diego Hazardous Materials Management District and/or the San Diego and/or Santa Ana Regional Water Quality Control Boards (RWQCBs). Appropriate mitigation will include monitoring the progress of UST closure activities through periodically updating the regulatory database review. This measure will be conducted for the selected SOCTIIP build Alternative.

Measure HM-11: Prima Deshecha Sanitary Landfill. For those SOCTIIP build Alternatives which traverse the Prima Deshecha Sanitary Landfill, an evaluation of methane concentrations in the area of the proposed construction will be conducted to evaluate the potential risk to worker safety. Although undocumented, it is conceivable that hazardous wastes may exist in the parts of the Landfill site disturbed during construction of these build Alternatives and excavation in Waste Management Unit 2, if required. Prior to construction, a subsurface investigation of the emplaced wastes will be conducted. Any hazardous substances that may pose unacceptable risks to human health or the environment will either be avoided through redesign of the relevant project features or will be removed and properly disposed of by the responsible party or parties identified during the right-of-way acquisition process. Also, a health, safety and emergency contingency program will be designed to minimize worker exposure to methane and previously undocumented hazardous materials on the Landfill site. The program will include the preparation of a soil-vapor screening program, including soil collection and analysis to evaluate the presence of chemically affected soil for disposal purposes. Final design will be coordinated with the California Integrated Waste Management Board, the Santa Ana RWQCB and/or local regulatory agencies, as applicable, to meet applicable permit guidelines related to construction in previously closed parts of the Landfill.

Measure HM-12: Hazardous Materials Sites. During final design, existing businesses within the disturbance limits for the selected Alternative will be evaluated related to hazardous materials concerns to identify areas where soil sampling is warranted. Based on this reevaluation, subsurface sampling may be conducted to evaluate the presence of previous chemical releases associated with these types of land uses. Identified contamination will be remediated prior to or during construction of the selected Alternative. The right-of-way acquisition process will specifically address the need for hazardous materials remediation. Remediation, consistent with regulatory requirements and standards, will fully mitigate adverse impacts associated with existing hazardous materials or wastes sites on property acquired for the selected Alternative.

Measure HM-13: Camp Pendleton. If the selected Alternative crosses Camp Pendleton, the Department of the Navy (DON) will be consulted and a review of current United States Environmental Protection Agency (EPA) files will be conducted during final design to evaluate whether National Priorities List (NPL) records indicate that hazardous materials releases have occurred beneath the northwestern part of the Base, which may impact the SOCTIIP build Alternative. Current regulatory records pertaining to the integrity of the USTs and associated piping at the Base gas station will be reviewed. In the event that the regulatory files lack records of monitoring or UST integrity test results, subsurface sampling activities will be conducted, including confirmation soil sampling conducted within the disturbance limits of the build Alternative. Evaluation of potentially impacted or environmentally impaired properties will be performed prior to acquisition in order to determine the degree of environmental risk and liability for both the buyer and seller.

Measure HM-14: Camp Pendleton. In the event that an Alternative that traverses a part of Camp Pendleton is ultimately selected for construction, the right-of-way easement granted by the DON to the TCA or other implementing agency (for a non-corridor Alternative) shall contain the following provisions: 1) procedures for control and manifesting of hazardous waste generated by construction or maintenance activities; 2) Assignment of responsibility for hazardous waste management, spill accountability, and hazardous waste disposal (including manifesting); 3) The EPA identification (ID)

number to be used to manifest hazardous wastes; 4) Responsibility for acquisition of any required health permits; 5) Procedures for management of HW stored on Camp Pendleton property; 6) Assignment of responsibility for any Notices of Violation or other regulatory enforcement actions occurring within the Alternative right-of-way during construction or operation of the SOCTIIP project.

Measure HM-15: TRW Capistrano Test Site. If the selected Alternative traverses the Capistrano Test site, the groundwater well shall be sampled and abandoned in a cooperative effort with TRW in accordance with applicable regulatory guidelines.

Measure HM-16: Petroleum Pipeline. If records of pipeline integrity testing are unavailable, a soil screening program, including the collection and analysis of soil samples beneath the pipeline, will be implemented in a cooperative effort with Kinder Morgan, the pipeline operator. The soil sampling will be conducted to evaluate the presence of chemically affected soil. If contaminated soil is documented associated with this pipeline, appropriate remediation in compliance with existing local, state and federal regulations will be implemented, in conjunction with Kinder Morgan.

Measure HM-17: Electrical Substations. If the final design for a build Alternative calls for the relocation of oil cooled and/or lubricated electrical equipment at existing electrical substations, the TCA will coordinate with the owner of the substation during final design to determine whether an evaluation of soils beneath the relocated equipment is necessary and appropriate. The TCA would also coordinate with the owner of the substation regarding the remediation of any contaminated soil associated with the affected electrical equipment, consistent with applicable local, state and federal regulations.

Mitigation Measure HM-18 Previously Unknown Hazardous Materials Encountered During Construction. If previously unknown hazardous materials or objects that could contain hazardous materials (such as an undocumented underground storage tank) are discovered during construction, construction personnel will notify TCA or the implementing agency immediately and implement measures to control and characterize the materials encountered, including notification of hazardous materials emergency response personnel as appropriate. Characterization of the possible hazardous materials will be similar to the provisions of HM-12. The construction contractor will provide for this contingency in the Health and Safety Plan for the project.

NES Measure 12 for Construction Storage: During all construction activities, the contractor shall ensure that construction equipment or vehicles shall not be stored within areas defined as Environmentally Sensitive Areas (ESAs), including areas within the jurisdiction of the ACOE and/or CDFG. There shall be no fueling, lubrication, storage, or maintenance of construction equipment within 46 m (150 ft) of CDFG or ACOE jurisdictional areas.

NES Measure 13 for Construction Disposal: During all construction activities, the contractor shall ensure that no waste material shall be discharged to any CDFG or ACOE jurisdictional areas. Spoil sites shall not be located within any CDFG or ACOE jurisdictional areas, or in areas where it could be washed into any surface water body.

8.18 MITIGATION MEASURES RELATED TO VISUAL RESOURCES

Measure AS-1. Adjacent landforms affected by the build Alternatives shall be recontoured to a 2:1 slope or as determined appropriate through geotechnical investigation to provide a smooth and gradual transition between modified landforms and existing grade and to minimize the appearance of manufactured grading. Use of crib-type retaining walls in place of slopes shall be minimized, except where necessary to provide greater landform diversity, reduce fill slopes, minimize long, flat slope surfaces or potentially salvage rock outcroppings. In areas where sensitive habitat is not prevalent, the

top and toe of the slope edges shall be rounded to reduce the angular effects of manufactured grading. The top of slopes where the surface breaks the horizon or ridgeline shall be undulated to avoid a straight edge along the skyline. For slopes greater than 20 m (65.6 feet), terrace drains shall be used to break up slope surfaces.

The TCA or the implementing agency/agencies shall prepare Aesthetic Design Guidelines for the project, similar to the guidelines for the San Joaquin Hills Transportation Corridor and the Foothill/Eastern Transportation Corridor. It is not possible to provide these guidelines at this stage of the project. The guidelines will be developed during final design of a Preferred Alternative. The Design Guidelines shall specifically address grading, berm design, slopes, benches and the incorporation of sound and retaining walls. These Guidelines will be used in conjunction with the Landscape Design Guidelines described in measure AS-2 to minimize the visual impacts of the build Alternatives.

Measure AS-2. The TCA or the implementing agency/agencies shall prepare Landscape Design Guidelines that will specify plant species that will either be seeded or planted on all exposed areas such that these areas will blend with the surrounding vegetated areas. Native vegetation shall be placed in appropriate locations and densities to fit into the natural setting. Landscaping with varied height and species diversity shall be used and material selection, location of native plant materials and sculptured grading shall emulate the adjacent natural setting. Terrace drains shall be screened with periodic placement of native plant materials in a random manner to help blend these drainage facilities into the slope and not unintentionally emphasize these facilities. The Landscape Design Guidelines will include the locations of the shrubs and/or vining species, where appropriate, at the base of soundwalls to blend these structures as much as possible with the surrounding areas. All landscaping treatments and materials shall be consistent with the Landscape Design Guidelines.

Measure AS-3. Lighting per Caltrans policies and procedures as set forth in the Caltrans Traffic Manual shall be installed by the TCA or implementing agency or agencies along the corridor or I-5, if one of these build Alternatives is selected. Lighting shall be such that Partial Interchange Lighting (PIL) with two electroliers at each interchange ramp, positioned per Caltrans standards, is provided. Additional and/or supplemental lighting shall be provided where necessary for safety. Toll collection plazas and their adjacent roadways shall be continuously lit. The mainline corridor shall not be continuously lit.

Lighting per County of Orange or local jurisdiction standards shall be installed along the arterials under the AIO Alternative by the implementing agency/agencies.

Measure AS-4. In conjunction with operation of the corridor Alternatives, light shall be applied as effectively as possible by the TCA, minimizing both the glare of any light source and the spillover of light onto areas outside of the corridor right-of-way~~, particularly open space areas and the Donna O'Neill Land Conservancy~~. The vertical or horizontal illuminance from roadway lighting sources shall not illuminate any surface outside of the right-of-way greater than 1/10 of the road's average horizontal illuminance. On the segment of a build Alternative through The Conservancy, there shall be no illumination of any surface in The Conservancy outside the right-of-way of the SOCTIIP Alternative.

In conjunction with operation of the AIO and I-5 Alternatives, light shall be applied as effectively as possible by the implementing agency/agencies, minimizing both the glare of any light source and the spillover of light onto areas outside of the road rights-of-way.

8.19 MITIGATION MEASURES RELATED TO ENERGY

No mitigation required.

8.20 MITIGATION MEASURES RELATED TO EARTH RESOURCES

Measure G-1. Prior to final design for the selected Alternative, a design level geotechnical report will be prepared for the selected Alternative. This report will document potential soil-related constraints and hazards such as slope instability, settlement, liquefaction or related secondary seismic impacts that may be present. Acceptance of the report will be subject to approval by the TCA and other agencies that may have jurisdiction. A minimum factor of safety of 1.5 shall be used to determine the final slope configuration. The report shall also include:

- Evaluation of potentially expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the development of the corridor.
- The design level geotechnical studies will identify potentially liquefiable areas and provide recommendations for mitigation. Any areas that require mitigation would be within the disturbed areas, and no additional impacts would result.

Measure G-2. In conjunction with final design, it will be demonstrated that side slopes shall be designed and graded so that the potential for surface erosion of the engineered fill is not increased from natural conditions.

Measure G-3. In conjunction with construction activity, native vegetation with good soil-binding characteristics and low water requirements will be planted on engineered slopes to reduce erosion and slope instability.

Measure G-4. A quality assurance/quality control plan will be maintained during construction. This will include observing, monitoring and testing by a geotechnical engineer and/or geologist during construction to confirm that geotechnical/geologic recommendations are fulfilled, or if different site conditions are encountered, appropriate changes are made to accommodate such issues.

Measure G-5. Once a final project alignment has been selected, a detailed review will be made to locate all groundwater wells within the project footprint. Any groundwater wells that occur within the project footprint will be abandoned properly during project construction. As may be required, (i.e., for active wells), the water supply provided by the well will be replaced. Replacement water may be provided by a variety of means, such as installing a new well or a connection to municipal supply.

8.21 MITIGATION MEASURES RELATED TO MILITARY USES

M-1: Nighttime Lighting and Shielding. During construction of the SOCTIIP build Alternatives on or in the immediate vicinity of Camp Pendleton, to minimize conflicts with night training by Base personnel, the following will be implemented:

- Construction lighting requirements during evening and night activities will be adjusted with proper shielding to focus illumination downwards in designated work areas. To accomplish this, lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to reduce the impact on night vision goggle training activities.
- Fixed lighting will not exceed the minimum needed to meet Caltrans standards. Lighting will be shrouded to reduce backscatter and vertical light pollution and will be of a type to minimize effects on adaptation to darkness and changes in light levels.

- A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during construction are consistent with the requirements of this mitigation measure.
- Cranes which would remain extended to a height of 12.2 meters (40 feet) above ground level (AGL) or higher during night-time hours must include the use of a Federal Aviation Administration (FAA) approved aircraft obstruction light mounted at the highest point of the equipment's extension AGL. The aircraft obstruction light must be operational from 30 minutes before sunset until 30 minutes after sunrise each day the equipment is in place and extended above 12.2 meters (40 feet) AGL overnight.

M-2: Access and Coordination. Construction activities and equipment movement could adversely impact the movement of troops and use of ranges during construction. These impacts will be mitigated by coordination among the TCA, the Contractor and Camp Pendleton personnel. Specifically, the Contractor will identify access routes, staging areas and all expected movement corridors during construction and will produce a design review memoranda/exhibit. These will be reviewed with the TCA and Camp Pendleton personnel to ensure construction activity impacts on Base training are minimized.

M-3: Base Security During Construction. For any corridor alignment which traverses or is in the immediate vicinity of Camp Pendleton, prior to final design, security measures shall be incorporated into the project construction specifications to ensure that construction workers and others cannot access the Base from the construction areas. These security measures shall be designed in consultation with Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented prior to any project related construction and shall be adequately maintained throughout the construction period.

M-4: Nighttime Lighting and Shielding. During operation of a SOCTIIP build Alternative on or immediately adjacent to Camp Pendleton, to minimize conflicts with night training by Base personnel, permanent night lighting will be adjusted with proper shielding to focus illumination downwards. Lighting fixtures will be fitted and hooded to minimize the spillage of light in an upward direction and on adjacent properties including the Base. Lighting will be designed to use the latest style of lighting (known as "mused lighting") to further minimize potential glare effects on the Base. This design will be implemented at all places on and adjacent to the Base requiring lighting along the road including interchanges and the mainline. To reduce the impact on night vision goggle training activities, fixed lighting on and immediately adjacent to the Base will not exceed the minimum needed to meet Caltrans standards. Lighting on and immediately adjacent to the Base will be shrouded to reduce backscatter and vertical light pollution and should be of a type to minimize effects on adaptation to darkness and changes in light levels.

A design review memoranda will be produced by the Contractor indicating that lighting design and materials used to minimize light and glare during operation on and immediately adjacent to the Base are consistent with the requirements of this mitigation measure.

M-5: Land Use Fragmentation/Ground Training. To reduce impacts associated with the fragmentation of land available on Camp Pendleton and to avoid creating a parcel on the Base fully fragmented and inaccessible from the rest of the Base, two underpasses will be constructed to provide clearance for military personnel and equipment movement. The underpasses will be sized and designed to accommodate the equipment and personnel needs as may be defined by the Marine Corps and the DON.

M-6: Base Security. For any corridor alignment which traverses or is immediately adjacent to Camp Pendleton, prior to final design, security measures shall be incorporated into the project design to ensure that users of the corridor cannot access the Base. These measures shall be designed in consultation with

Camp Pendleton and shall be in the form of physical barriers including but not limited to walls and fencing. These security measures shall be implemented and fully operable prior to public access to the corridor.

8.22 MITIGATION MEASURES RELATED TO MINERAL RESOURCES

The mitigation measures concerning impacts to the mineral resources is SE-2. Refer to Section 8.4 (Socioeconomics and Environmental Justice) for a description of this measure.

8.23 MITIGATION MEASURES RELATED TO PALEONTOLOGICAL RESOURCES

Measure P-1: Pre-Construction Salvage. Prior to the start of any earthmoving activity, an Orange County Certified (OCC) Paleontologist will be retained to conduct pregrading salvage of any significant exposed fossils identified by the OCC Paleontologist prior to any heavy equipment activity in a particular area. Paleontological monitoring of brush removal shall be performed by a qualified paleontologist, under the supervision of an OCC Paleontologist, to locate and salvage additional significant fossil remains not previously visible. The OCC Paleontologist shall prepare a paleontological technical report that includes methodology, results, and an inventory list of significant fossils recovered.

Measure P-2: Monitoring Procedures. Prior to the start of any earthmoving activity, an OCC Paleontologist shall be retained to establish procedures, following these mitigation guidelines set forth in this Paleontological Resources Technical Report, for paleontological resource monitoring by qualified paleontological monitors during grading, and procedures for temporarily halting or redirecting work to permit the sampling, identification and evaluation of the fossils as appropriate. The OCC Paleontologist shall also establish emergency procedures applicable to the discovery of unanticipated significant paleontological resources (e.g. large specimens or significant concentrations of specimens as determined by the OCC Paleontologist). The OCC Paleontologist shall be present at the pregrading conference to explain the established procedures to the construction contractors.

Measure P-3: Construction Monitoring. During all construction activities which involve soil disturbance, the following activities will be conducted:

a. An Orange County Certified Paleontologist will be retained to supervise monitoring of construction excavations and to produce a mitigation plan for the proposed project. Paleontological monitoring will include inspection of exposed rock units and microscopic examination of matrix to determine if fossils are present. The monitor will have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens.

b. If microfossils are present, the monitor will collect matrix for processing. In order to expedite removal of fossiliferous matrix, the monitor may request heavy machinery assistance to move large quantities of matrix out of the path of construction to designated stockpile areas. Testing of stockpiles will consist of screen washing small samples (approximately 90 kilograms, or 200 pounds) to determine if significant fossils are present. Productive tests will result in screen washing of additional matrix from the stockpiles to a maximum of 2,700 kg (6,000 lbs) per locality to ensure recovery of a scientifically significant sample.

c. Younger Quaternary Alluvium, San Onofre Breccia and Quaternary Landslide Deposits have a low or indeterminate paleontological sensitivity level, and will be spot-checked in a periodic basis to insure that older underlying sediments are not being penetrated and fossils are not being exposed. All earth-moving in the Williams Formation, Silverado Formation, Santiago Formation, Sespe Formation, Vaqueros Formation, Sespe/Vaqueros Undifferentied, Topanga Formation, Monterey Formation,

Capistrano Formation, Niguel Formation, Older Quaternary Alluvium and Quaternary Marine and Non-Marine Terrace Deposits will be monitored full-time. The moderate to high paleontological sensitivity of these formations requires a maximum effort to recover fossils.

d. The Orange County Certified Paleontologist will prepare monthly progress reports to be filed with the client and the lead agencies.

e. Recovered fossils will be prepared to the point of curation, identified by qualified experts, listed in a database to allow analysis, and deposited in a designated repository such as a County of Orange facility, which shall have the first right-of-refusal of the collection, or the Natural History Museum of Los Angeles County or San Diego Natural History Museum.

f. At each fossil locality, field data forms will record the locality, stratigraphic columns will be measured and appropriate scientific samples submitted for analysis.

The Orange County Certified Paleontologist will prepare a final mitigation report to be filed with the client, the lead agencies, and the repository.

8.24 MITIGATION MEASURES RELATED TO PUBLIC SERVICES AND UTILITIES

Mitigation Measures for Public Services

Measure PS-1: Avoidance of the Temporary Use and/or Permanent Acquisition of Public Services and Utilities Property. During final design, the TCA or the implementing agency/agencies will refine the design to the extent feasible based on engineering judgment and design standards to avoid or minimize the temporary use during construction and the permanent acquisition of land currently occupied by public services and utilities. In the event that the temporary use or permanent acquisition of this property cannot be avoided through design refinements, other mitigation measures identified for the compensation of temporary and permanent use of public services and utilities property will apply to the build Alternatives.

Measure PS-2: Fire Protection. During construction, in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, the contractor will be required to install signs around construction sites warning of high fire risk and of area closings during the high fire season as declared by OCFA or the MCB Camp Pendleton Fire Department.

Measure PS-3: Fire Protection. During operation of a build Alternative, Caltrans (for the corridor, Ortega Highway and I-5) and/or the local jurisdiction (for local arterials), as appropriate, will install signs along the new or improved road segments in areas subject to wildland fires as determined by the OCFA, or the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, warning of high fire risk and of area closings during the high fire season declared by OCFA and the MCB Camp Pendleton Fire Department.

Measure PS-4: Fire Protection. Emergency call boxes will be installed along the road in undeveloped areas of high and extreme fire hazard, consistent with existing OCFA, Orange County Transportation Authority, Caltrans, TCA and/or local jurisdiction, as appropriate, policies on emergency call boxes.

Measure PS-5: Fire Protection. During construction of a build Alternative, the contractor will be required to maintain access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton.

Measure PS-6: Fire Protection. During final design for a build Alternative, the long-term preservation/provision of access to the existing fire road grid for the OCFA, and the MCB Camp Pendleton Fire Department for areas on MCB Camp Pendleton, will be incorporated in the facility design, in consultation with the OCFA and the MCB Camp Pendleton Fire Department.

Measure PS-7: Fire Protection. During construction of a build Alternative, the contractor will implement fuel modification techniques as required by the OCFA, and the MCB Camp Pendleton Fire Department in areas on MCB Camp Pendleton, in areas of fire hazard as determined by the OCFA and the MCB Camp Pendleton Fire Department.

Measure PS-8: Fire, Emergency Medical and Law Enforcement. During final design, the TCA, Caltrans and/or the City of San Clemente, as appropriate, will coordinate the addition of OPTICON or other traffic pre-emption devices as used in the City of San Clemente with the City's traffic engineer. These devices will be provided at impacted intersections, as identified in the Traffic Technical Report, to reduce impacts to fire, medical emergency and law enforcement response times.

Mitigation Measure PS-9: Fire, Emergency Medical and Law Enforcement. During construction the TCA or the implementing agency/agencies will require the contractor to coordinate all temporary ramp closures and detour plans with fire, emergency medical and law enforcement providers to minimize temporary delays in response times.

Measure PS-10: Law Enforcement. Prior to operation of any build Alternative which crosses MCB Camp Pendleton, the State of California shall solicit a transfer of concurrent legal (law enforcement) jurisdiction from the federal government to the State for any part of an Alternative that crosses MCB Camp Pendleton as provided in Section 2851 of the Fiscal Year 1999 National Defense Authorization Act (H.R. 3616).

Measure PS-11: Solid Waste. Prior to the final design of a build Alternative that crosses Prima Deshecha Sanitary Landfill, the TCA (Corridor Alternatives) or implementing agency/agencies (AIO Alternative) shall consult with site engineers from the Landfill to identify and incorporate design elements that minimize impacts related to capacity and Landfill life span. Construction across or excavation in any areas previously used for landfilling will be carried out consistent with all pertinent local, state and federal regulations regarding construction and disturbance in areas previously used for landfilling.

Measure PS-12: Solid Waste. During final design of a build Alternative which crosses Prima Deshecha Sanitary Landfill, the TCA (Corridor Alternatives) or implementing agency/agencies (AIO Alternative) will incorporate access routes on the Landfill site to accommodate travel within this site for waste disposal and other vehicles. Specifically, the access routes will allow vehicles to access Zone 4 from the existing La Pata Avenue access road and to access all areas in Zone 4. At no time, including during construction, will access to or within Prima Deshecha Sanitary Landfill be restricted such that landfilling operations are adversely affected. The current designs for the corridor Alternatives include this access. The current designs for the AIO Alternative would require modification by the implementing agency/agencies to include this access.

Measure PS-13: Solid Waste. Prior to construction of a build Alternative which will generate excess fill, the contractor will be required to offer fill for use in other development projects or to area landfills as daily cover. Landfilling of excess soil and rock material will be considered the option of last resort.

PS-13A: Solid Waste. Excess fill material from construction will not be disposed of at MCB Camp Pendleton landfills, unless such disposal is approved in advance though mutual agreement with the Environmental Security Department's Solid Waste Branch. If Base agreement for such disposal is

granted, the contractor shall be responsible for hauling the materials to the Base landfill(s) and for complying with all Base regulations regarding the transport and disposal of that material on the Base.

Measure PS-14: Direct Permanent Impacts on Schools. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with the school districts or private schools whose facilities will be permanently acquired to determine appropriate action and/or compensation to mitigate for the permanent acquisition.

Measure PS-15: Direct Temporary Impacts on Schools. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with the school districts whose facilities will be temporarily removed during construction to determine appropriate action and or compensation to mitigate for the temporary use.

Measure PS-16: Public Facilities. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with owners of public facilities that will be removed, partially removed or will experience loss of parking facilities, to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition.

Mitigation Measures for Public Utilities

Measure U-1: Utilities. As early as possible during final design, the TCA or other implementing agency/agencies, as appropriate, will consult with each utility provider/owner to avoid or reduce potential impacts on existing and planned utilities through design refinements. Should impacts be unavoidable, all affected facilities shall be relocated or protected in place prior to, during or after construction, as appropriate, and in accordance with the methods and designs approved by the affected utility provider/owner. For utilities located on MCB Camp Pendleton, as early as possible the TCA or other implementing agency/agencies will consult with and receive approval from the Marine Corps on any utility relocations or realignments prior to discussing the proposed activities with utility providers.

Measure U-2: Temporary Use and Permanent Acquisition. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, the TCA or other implementing agency/agencies will negotiate with utility providers whose facilities will be temporary used and/or permanently acquired to determine appropriate action and/or compensation to mitigate for the temporary use and/or permanent acquisition of their property.

Measure U-3: MCB Camp Pendleton Percolation Ponds. Consistent with requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 appropriate action and compensation to reduce the effect of the encroachment on MCB Camp Pendleton will be negotiated with the Department of the Navy.

8.25 MITIGATION MEASURES RELATED TO RECREATION RESOURCES

Mitigation measures concerning impacts to recreation are R-1 to R-5. Refer to Section 8.5 (Mitigation Measures Related to Pedestrian and Bicycle Facilities) for a description of these measures.

Table 8-1
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Far East Corridor-Modified Alternative	
None.	None.
Far East Corridor-West Alternative	
None.	None.
Central Corridor-Complete Alternative	
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avenida Pico under Scenarios 1, 3 and 4.	No conventional intersection enhancements could be identified (traffic share = 19%).
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 58%).
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Avd Pico under Scenarios 1, 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 58%).
Central Corridor-Avenida La Pata Variation Alternative	
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 1 and 3.	Add second eastbound left-turn lane and convert second northbound through lane to shared second through/ second right-turn lane (traffic share = 16%).
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Vista Hermosa under Scenarios 1 and 3.	Add third eastbound through lane and second westbound left-turn lane (traffic share = 22%).
Long-range peak hour LOS intersection deficiency: Avd Talega & Ave Vista Hermosa under Scenario 1.	Add third westbound through lane (traffic share = 37%).
Long-range peak hour LOS intersection deficiency: Avd Vista Hermosa & Avd Pico under Scenario 1.	Add westbound right-turn lane and convert third eastbound through lane to third eastbound left-turn lane (traffic share = 31%).
Long-range peak hour LOS intersection deficiency: Cm Vera Cruz & Avd Vista Hermosa under Scenario 1.	Add third eastbound and westbound through lanes and second southbound left-turn lane (traffic share = 10%).
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 1 and 3.	Add third eastbound through lane and second eastbound left-turn lane (traffic share = 17%).
Long-range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 1 and 3.	Reconstruct intersection as part of ramp improvement listed below to provide separate southbound on-ramps from eastbound and westbound Avd Pico (traffic share = 21%).
Long-range peak hour LOS ramp deficiency: I-5 northbound off-ramp at Avd Pico under Scenarios 1 and 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 36%).

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1 and 3.	Widen to a two-lane on-ramp (traffic share = 6%).
Long-range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 1 and 3.	Provide separate on-ramps from eastbound and westbound Avd Pico (traffic share = 35%).
Alignment 7 Corridor-Far East Crossover-Modified/Preferred Alternative	
None.	None.
Alignment 7 Corridor-Avenida La Pata Variation Alternative	
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 1 and 3.	Add second eastbound left-turn lane and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 16%).
Long-range peak hour LOS intersection deficiency: Avd la Pata & Avd Vista Hermosa under Scenarios 1 and 3.	Add third eastbound through lane and second westbound left-turn lane (traffic share = 22%).
Long-range peak hour LOS intersection deficiency: Avd Talega & Ave Vista Hermosa under Scenario 1.	Add third westbound through lane (traffic share = 37%).
Long-range peak hour LOS intersection deficiency: Avd Vista Hermosa & Avd Pico under Scenario 1.	Add westbound right-turn lane and convert third eastbound through lane to third eastbound left-turn lane (traffic share = 31%).
Long-range peak hour LOS intersection deficiency: Cm Vera Cruz & Avd Vista Hermosa under Scenario 1.	Add third eastbound and westbound through lanes and second southbound left-turn lane (traffic share = 10%).
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 1 and 3.	Add third eastbound through lane and second eastbound left-turn lane (traffic share = 17%).
Long-range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 1 and 3.	Reconstruct intersection as part of ramp improvement listed below to provide separate southbound on-ramps from eastbound and westbound Avd Pico (traffic share = 21%).
Long-rang peak hour LOS ramp deficiency: I-5 northbound off-ramp at Avd Pico under Scenarios 1 and 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 36%).
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Avd Pico under Scenarios 1 and 3.	Widen to a two-lane on-ramp (traffic share = 6%).
Long-range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 1 and 3.	Provide separate on-ramps from eastbound and westbound Avd Pico (traffic share = 35%).

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Arterial Improvements Only Alternative	
Long-range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 3.	Implement at-grade improvement plan: add third eastbound and northbound left-turn lanes and provide eastbound free right-turn lane (traffic share = 11%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 11%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 4.	Implement at-grade improvement plan: add fourth eastbound and westbound through lanes and third northbound, southbound, eastbound and westbound left-turn lanes, and provide westbound free right-turn lane (traffic share = 11%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 11%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenario 4.	Implement at-grade improvement plan: add third eastbound and westbound through lanes and third southbound and westbound left-turn lanes, and provide northbound, southbound and westbound free right-turn lanes (traffic share = 5%). Or implement grade separated improvement plan: signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy-La Pata Ave (traffic share = 5%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy & North River Rd under Scenario 3.	Add third southbound and westbound left-turn lanes (traffic share = 12%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy & Oso Pkwy under Scenarios 3 and 4.	Implement at-grade improvement plan: add fourth eastbound and westbound through lanes and third northbound, eastbound and westbound left-turn lanes, and provide northbound and westbound free right-turn lanes (traffic share = 16%). Or implement grade separated improvement plan: Signalized control of all intersection movements except northbound and southbound through traffic on Antonio Pkwy (traffic share = 16%).
Long-range peak hour LOS intersection deficiency: Avd Empresa & Avd De Las Banderas under Scenarios 3 and 4.	Add second eastbound left-turn lane (traffic share = 2%).
Long-range peak hour LOS intersection deficiency: Avd Empresa & Santa Margarita Pkwy under Scenarios 3 and 4.	Convert eastbound right-turn lane to a free right-turn lane and add northbound shared third left-turn lane/through lane (traffic share = 4%).

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Pico under Scenarios 3 and 4.	Implement at-grade improvement plan: add third northbound through lane and second and third eastbound left-turn lanes, and provide westbound free right-turn lane (traffic share = 26%). Or implement grade separated improvement plan: signalized control of all intersection movements except eastbound and westbound through traffic on Avd Pico (traffic share = 26%).
Long-range peak hour LOS intersection deficiency: Avd La Pata & Avd Vista Hermosa under Scenarios 3 and 4.	Add fourth southbound through lane, second southbound, eastbound and westbound left-turn lanes, and westbound right-turn lane (traffic share = 16%).
Long-range peak hour LOS intersection deficiency: Felipe Rd & Oso Pkwy under Scenarios 3 and 4.	Add fourth eastbound and westbound through lanes and second southbound left-turn lane, and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 4%).
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Avd Pico under Scenarios 3 and 4.	Add third eastbound through lane (traffic share = 8%).
Long-range peak hour LOS intersection deficiency: I-5 southbound ramps & Avd Pico under Scenarios 3 and 4.	Add second westbound left-turn lane (traffic share = 13%).
Long-range peak hour LOS intersection deficiency: Marguerite Pkwy & Jeronimo Rd under Scenario 4.	Add second northbound left-turn lane (traffic share = 6%).
Long-range peak hour LOS intersection deficiency: SR-241 northbound ramps & Antonio Pkwy under Scenario 3.	Convert third westbound through lane to shared third through/second right-turn lane (traffic share = 3%).
Long-range peak hour LOS intersection deficiency: SR-241 northbound ramps & Oso Pkwy under Scenarios 3 and 4.	Add third westbound through lane, second eastbound left-turn lane, and second eastbound right-turn lane (traffic share = 14%).
Long-range peak hour LOS intersection deficiency: SR-241 southbound ramps & Oso Pkwy under Scenario 4.	Add third eastbound through lane (traffic share = 17%).
Long-range peak hour LOS ramp deficiency: I-5 southbound on-ramp at Avd Pico under Scenarios 3 and 4.	Widen to a two-lane on-ramp (traffic share = 22%).
Long-range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Crown Valley Pkwy under Scenario 3.	Widen to a two-lane on-ramp (traffic share = 6%).
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Crown Valley Pkwy under Scenario 3.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 5%).
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Ortega Hwy under Scenario 4.	Widen to a two-lane on-ramp or provide separate on-ramps from eastbound and westbound Ortega Hwy (traffic share = 5%).

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Oso Pkwy under Scenario 3.	Add second drop lane from I-5 to the off-ramp (traffic share = 2%).
Long-range peak hour LOS ramp deficiency: SR-241 northbound on-ramp at Antonio Pkwy under Scenario 3.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 4%).
Long-range peak hour LOS ramp deficiency: SR-241 southbound off-ramp at Antonio Pkwy under Scenarios 3 and 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 6%).
Long-range peak hour LOS ramp deficiency: SR-241 northbound on-ramp at Oso Pkwy under Scenarios 3 and 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 18%).
Long-range peak hour LOS ramp deficiency: SR-241 southbound off-ramp at Oso Pkwy under Scenario 4.	Widen ramp toll plaza to provide two cash (stopped) lanes and two FasTrak (unstopped) lanes (traffic share = 21%).
I-5 Widening Alternative	
Long-range peak hour LOS intersection deficiency: Antonio Pkwy & Crown Valley Pkwy under Scenario 3.	Add fourth southbound through lane and third eastbound left-turn lane (traffic share = 2%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenarios 1 and 3.	Provide southbound free right-turn lane (traffic share = 2%).
Long-range peak hour LOS intersection deficiency: Antonio Pkwy-La Pata Ave & Ortega Hwy under Scenario 4.	Convert second northbound through lane to shared second through/second right-turn lane (traffic share = 2%).
Long-range peak hour LOS intersection deficiency: Cm Capistrano & San Juan Creek Rd under Scenario 4.	Convert second northbound through lane to shared second through/second right-turn lane (traffic share = 10%).
Long-range peak hour LOS intersection deficiency: Cm Capistrano & Stonehill Dr under Scenario 1.	Add second eastbound through lane and northbound right-turn lane, and convert second southbound through lane to shared second through/second right-turn lane (traffic share = 8%).
Long-range peak hour LOS intersection deficiency: Felipe Rd & Oso Pkwy under Scenario 4.	Add fourth eastbound through lane and second southbound left-turn lane, and convert second northbound through lane to shared second through/second right-turn lane (traffic share = 4%).
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Crown Valley Pkwy under Scenario 4.	Add fourth eastbound through lane (traffic share = 8%).
Long-range peak hour LOS intersection deficiency: I-5 northbound ramps & Oso Pkwy under Scenario 1.	Add northbound shared second left-turn/second right-turn lane (traffic share = 4%).
Long-range peak hour LOS intersection deficiency: Los Altos & Crown Valley Pkwy under Scenario 4.	Modify southbound approach to provide a left-turn lane and a shared through/right-turn lane and eliminate north/south split phasing (traffic share = 5%).

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Long-range peak hour LOS intersection deficiency: Marguerite Pkwy & Avery Pkwy under Scenario 4.	Add southbound right-turn lane (traffic share = 3%).
Long-range peak hour LOS intersection deficiency: Marguerite Pkwy & Crown Valley Pkwy under Scenario 1.	Add third northbound through lane and convert second southbound through lane to shared second through/second right-turn lane (traffic share = 2%).
Long-range peak hour LOS intersection deficiency: Puerta Real & Crown Valley Pkwy under Scenario 4.	Convert southbound through lane to shared through/second right-turn lane (traffic share = 3%).
Long-range peak hour LOS intersection deficiency: Rancho Viejo Rd & Ortega Hwy under Scenario 1.	Add third eastbound through lane (traffic share = 2%).
Long-range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Avd Pico under Scenario 1.	Widen to a two-lane on-ramp (traffic share = 5%).
Long-range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Avd Vista Hermosa under Scenario 1.	Widen to a two-lane on-ramp (traffic share = 4%).
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Avd Vista Hermosa under Scenario 1.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 16%).
Long-range peak hour LOS ramp deficiency: I-5 northbound direct on-ramp at Crown Valley Pkwy under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 9%).
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Crown Valley Pkwy under Scenarios 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 11%).
Long-range peak hour LOS ramp deficiency: I-5 southbound off-ramp at Ortega Hwy under Scenarios 1, 3 and 4.	Add second auxiliary lane from I-5 to the off-ramp (traffic share = 9%).
Long-range peak hour LOS ramp deficiency: I-5 northbound on-ramp at Stonehill Dr under Scenarios 1, 3 and 4.	Widen to a two-lane on-ramp (traffic share = 16%).
No Action Alternatives	
Scenario 1: 11 deficient segments of I-5 (El Camino Real to Junipero Serra Road and Oso Parkway to El Toro Road) 17 deficient freeway/tollway ramps (13 I-5 ramps and four SR-241 ramps) 41 deficient intersections (27 arterial-to-arterial and 14 arterial-to-freeway/tollway ramps)	None.

Table 8-1 (continued)
Summary of Direct Adverse Long-Term Impacts and Mitigation Measures for Traffic and Circulation

Direct Adverse Impact and Impacted Scenarios[a]	Mitigation Measure[b] and Traffic Share Percentages
Scenario 3: 10 deficient segments of I-5 (El Camino Real to Junipero Serra Road and Oso Parkway to El Toro Road) 14 deficient freeway/tollway ramps (nine I-5 ramps and four SR-241 ramps) 27 deficient intersections (20 arterial-to-arterial and seven arterial-to-freeway/ tollway ramps)	None.
Potential for Cumulative Traffic Impacts	
No I-5 mainline segments in the study area are adversely impacted by the SOCTIIP build Alternatives. For the build Alternatives that include the FTC-S from Oso Parkway to I-5, no direct adverse impacts occur in the Alternatives with a FTC-S connection to I-5 via the Far East Corridor alignment (the FEC-M, FEC-W and A7C-FEC-M Alternatives), and direct adverse impacts occur at the CC Alternative with an FTC-S connection to I-5 via the Central Corridor alignment (the CC Alternative). For the build Alternatives that include the FTC-S from Oso Parkway to Avenida La Pata (the CC-ALPV and A7C-ALPV Alternatives), direct adverse impacts occur at 10 locations. For the build Alternatives that do not include the FTC-S toll road, direct adverse impacts occur at 19 locations under the I-5 Alternative and 24 locations under the AIO Alternative	

Source: Austin Foust Associates (2003).

[a] The assumptions for each scenario are as follows:
Scenario 1: Committed circulation system with 14,000 DU proposed RMV plan.
Scenario 3: Build out circulation system with 14,000 DU proposed RMV plan.
Scenario 4: Build out circulation system with 21,000 DU OCP-2000 plan for RMV.

[b] Refer to Section 3.6 (Long-Range Mitigation Measures) for detailed discussion of project mitigation.

SECTION 9.0
LIST OF PREPARERS

9.1 EIS/SEIR

9.1.1 FEDERAL HIGHWAY ADMINISTRATION

Maiser Khaled, Director, Project Development & Environment, California Division

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9.1.3 TRANSPORTATION CORRIDOR AGENCY

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David Lowe, P.E., Deputy Director, Design and Construction, BS in Civil Engineering; 20 years experience in civil engineering, transportation planning, design and construction.

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Maria Levario, ~~Consultant to the TCA, Environmental Manager~~Principal Environmental Analyst, Environmental Planning, BS in Urban and Regional Planning, ~~six~~ seven years experience in environmental documentation and transportation planning.

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9.1.4 EIS/SEIR CONSULTANT (P&D Consultants, Inc.)

Christine Huard-Spencer, Project Manager, Principal, BA and MA in Geography, 25 years experience in CEQA and NEPA environmental documentation.

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Betty Dehoney, MS and BA in Biology, 23 years experience specializing in CEQA and NEPA analysis of biological resources and regulatory compliance.

Anne Pietro, BA in Sociology and MS in Landscape Architecture; eight years experience in transportation planning and environmental documentation.

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Mello Dee Hrdlicka, Biologist and Environmental Analyst, BS in Biological Sciences; three years experience with identification, tagging and tracking of endangered species, San Bernardino kangaroo rat State [10(a)(1)(a)] and federal permits and MOU.

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9.1.5 FINAL EIS/SEIR CONSULTANT (LSA ASSOCIATES)

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Starla Gierer, Word Processor, 20 years experience in document production.

9.2 PREPARERS OF THE TECHNICAL STUDIES

9.2.1 AIR QUALITY TECHNICAL REPORT (Mestre Greve Associates)

Fred Greve, P.E., Task Leader, Principal-in-Charge, BS in Civil and Environmental Engineering, BS in Biological Sciences and MS in Environmental Engineering; 25 years experience in all aspects of air quality and noise assessments.

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9.2.2 GEOTECHNICAL, GEOLOGY AND SOILS TECHNICAL REPORT (GeoPentech, Inc.)

John Waggoner, Task Leader, Principal Geologist, BA in Earth Science; over 20 years experience in geology, engineering geology and seismic geology, for civil engineering projects.

Yoshi Moriwaki, Principal Geotechnical Engineer, BS in Civil Engineering, MS in Engineering Mechanics, PhD in Geotechnical Engineering; over 30 years experience in geotechnical engineering and earthquake engineering for civil engineering projects.

9.2.3 HAZARDOUS MATERIALS AND WASTES TECHNICAL REPORT (P&D Consultants, Inc.)

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9.2.4 HISTORIC PROPERTY SURVEY REPORT (Greenwood and Associates)

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9.2.5 HYDROLOGY TECHNICAL REPORT

9.2.5.1 P&D Consultants, Inc.

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9.2.5.2 Psomas

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Melissa Lane, Project Engineer.

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9.2.6 LAND USE TECHNICAL REPORT

9.2.6.1 P&D Consultants, Inc.

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Gretchen Head, Environmental Analyst.

Jeff Post, Graphic Artist.

Michael Benner, Principal-in-Charge.

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9.2.6.2 Psomas

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Howard Hahn, Visual Analysis/GIS Support, MS in Landscape Architecture; 17 years experience in visual analysis and visual simulation; three years experience in GIS analysis.

9.2.7 LOCATION HYDRAULICS STUDIES TECHNICAL REPORT

9.2.7.1 P&D Consultants, Inc.

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Romi Archer, Assistant Project Manager and Senior Environmental Planner.

9.2.7.2 Psomas

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Lisa Stromme, P.E. Project Engineer.

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9.2.8 MILITARY IMPACTS TECHNICAL REPORT (P&D Consultants, Inc.)

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Romi Archer, Assistant Project Manager and Senior Environmental Planner.

Christine Huard-Spencer, Principal and Project Manager.

Michael Benner, Principal-in-Charge.

9.2.9 NATURAL ENVIRONMENT STUDY

9.2.9.1 P&D Consultants, Inc.

Betty Dehoney, Biology Task Leader.

Christine Huard-Spencer, Project Manager and Principal.

Michael Benner, Principal-in-Charge.

Shelly Feeney Austin, Biologist, MS in Forestry, BS in Biological Sciences; eight years experience specializing in plant ecology and taxonomy.

Doug Willick, Biologist, AA in Wildlife Management; 15 years experience specializing in ornithology. Permitted for California gnatcatcher, southwestern willow flycatcher and least Bell's vireo.

Sal Zimmitti, Biologist, MS and BA in Ecology; nine years of experience, specializing in biological assessment and focused surveys, 38 hours of wetlands delineation training. Permitted (No. TE021544-0) for listed fairy shrimp, arroyo toad and quino checkerspot butterfly.

Jeff Crain, Biologist, BS in Biological Sciences; six years experience specializing in plant ecology and taxonomy.

Carol Hertzog, Biologist, BS in Biology, BS in Physiology; seven years experience conducting general and focused biological surveys. Permitted for California gnatcatcher and Quino checkerspot butterfly (no longer with P&D).

Scott Holbrook, Biologist, BA in Applied Ecology; 10 years experience specializing in CEQA regulatory compliance (no longer with P&D).

Mello Dee Hrdlicka, Biologist and Environmental Analyst.

9.2.9.2 Glenn Lukos Associates

Glenn Lukos, Task Leader, Biologist, PhD in Aquatic Ecology (in progress), MS in Limnology and Aquatic Biology, BS in Interdisciplinary Studies; over 20 years experience in wetland ecology, identification and regulations.

Jeff Ahrens, Biologist, MS in Environmental Studies (in progress), BS in Biology; seven years experience specializing in wildlife ecology, conducting focused surveys for least Bell's vireo, California gnatcatcher, red-legged frog and arroyo toad, and wetlands delineations.

Tony Bomkamp, Biologist, MS in Environmental Studies, BA in Biology; over 25 years experience in southern California botany and plant communities and 12 years experience in wetland ecology, identification and functional assessment. Permitted for listed branchiopods throughout California and presence/absence surveys for California gnatcatcher.

Ingrid Chlup, Biologist, MS in Environmental Studies (in progress), BS in Biology; one year experience specializing in ecology, wetlands delineations and functional assessments.

David Moskovitz, Biologist, MS (in progress) and BS in Biology; over five years experience in plant ecology, field botany and wetlands delineation.

Sara Young, Biologist, MS and BS in Soil Science; over eight years experience in soil mapping, identification and analysis with an emphasis on hydric soils and wetlands.

9.2.9.3 Brown-Berry Consulting

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Patricia Brown, Biologist, PhD in biology, BA in Zoology; 33 years experience in bat surveys, specializing in echolocation and field identification of bats.

9.2.9.4 SJM Biological Consultants

Stephen J. Montgomery, Task Leader, Biologist, MS in Biology/Ecology, BS in Wildlife Biology; over 25 years experience with ecological studies of southern California endangered and sensitive small mammal and bird species. Permitted for Pacific pocket mouse, Stephens' kangaroo rat, San Bernardino Merriam's kangaroo rat and California gnatcatcher.

Shana Dodd, Biologist, MS in Conservation Biology, BA in Biology; 12 years experience with general wildlife studies and small mammal research.

9.2.9.5 White & Leatherman Biological Services

Brian Leatherman, Biologist, MA and BA in Biology; eight years experience in bird surveys, herptofauna and mammals. Permitted for California gnatcatcher, southwestern willow flycatcher and Quino checkerspot butterfly.

9.2.9.6 Psomas

David Moore, Biologist, BS from Colorado State University; four years technical and management experience in wildlife management, fisheries and NEPA document preparation.

9.2.9.7 Independent and Other Consultants

Ann Johnston, BonTerra Consulting, Principal of Biological Services, BA in Biology, 14 years experience in sensitive biological resource inventories, endangered species surveys, general wildlife and plant biology, mitigation monitoring, habitat evaluations and biological resources environmental documentation.

Peter Bloom, Biologist, MS in biology, BS in Zoology; over 30 years experience in southwestern California ornithology, herpetology, mammalogy and botany. Permitted for California gnatcatcher and southwestern willow flycatcher.

Jeff Kidd, Biologist, BS in Wildlife Biology (in progress), AS in Environmental Science; eight years experience. Permitted for Quino checkerspot butterfly and raptors, and subpermit for California gnatcatcher and arroyo toad.

Chris Niemela, Biologist, MS (in progress) and BS in Wildlife Biology; seven years experience. Subpermit for arroyo toad.

James Pike, Biologist, 10 years experience in bird surveys including California gnatcatcher, southwestern willow flycatcher and least Bell's vireo.

Stephanie Remington, Biologist, MS in Biology, BA in Zoology; five years experience in bat surveys, MS thesis on bats of Orange County.

Camm Swift, Biologist, PhD and MA in zoology, BA in Biology; 22 years experience, specializing in ichthyology. Permitted for tidewater goby, red-legged frog and arroyo chub.

9.2.10 NOISE ASSESSMENT REPORT (Mestre Greve Associates)

Matthew Jones, Team Leader, E.I.T., BS in Electrical Engineering; over 15 years experience in acoustics and noise assessment.

Fred Greve, P.E., Principal-in-Charge.

James Spencer, Ph.D., Project Engineer, BS in General Engineering, MS in Civil and Environmental Engineering, and Ph.D. in Geophysics; over 20 years experience in laboratory measurements and acoustics.

9.2.11 PALEONTOLOGICAL RESOURCES TECHNICAL REPORT (SWCA Environmental Consultants)

Cara L. Corsetti, Task Leader, Program Director of Paleontology, BA in Interdisciplinary Studies with Emphasis in Biology and Geology and MS in Geology (pending); four years experience in paleontology.

Cara L. Burres-Jones, Team Leader, Orange County Certified Paleontologist, BA and MA in Biology (MA with Emphasis in Vertebrate Paleontology); 14 years experience in vertebrate paleontology (no longer with SWCA).

Bronwyn K. Kelly, Project Manager of Paleontology, BS and MS in Geology; four years experience in paleontology.

Travis Douthit, GIS Specialist, BS in Geography with a Minor in Rangeland Ecology and Management; six years experience in GIS mapping and analysis.

9.2.12 PHASE I ARCHAEOLOGICAL INVENTORY (Greenwood and Associates)

John M. Foster, Project Manager.
Roberta S. Greenwood, Principal Investigator.
Dana N. Slawson, Architectural History and History.
James J. Schmidt, Archaeologist.
Alice Hale, Archaeologist.

9.2.13 PHASE I HISTORIC RESOURCES EVALUATION REPORT (Greenwood and Associates)

John M. Foster, Project Manager.
Roberta S. Greenwood, Principal Investigator.

Dana N. Slawson, Architectural History and History.
James J. Schmidt, Archaeologist.
Alice Hale, Archaeologist.

9.2.14 PROJECT ALTERNATIVES TECHNICAL REPORT

9.2.14.1 P&D Consultants, Inc.

Michael Benner, Principal-in-Charge.
Romi Archer, Assistant Project Manager and Senior Environmental Planner.
Christine Huard-Spencer, Principal and Project Manager.

9.2.14.2 Austin-Foust Associates

Terry Austin, Task Leader, Principal-in-Charge.
Kendall Elmer, Project Manager.

9.2.15 PUBLIC SERVICES AND UTILITIES TECHNICAL REPORT

9.2.15.1 P&D Consultants, Inc.

Anne Pietro, Task Leader.
Christine Huard-Spencer, Principal and Project Manager
Michael Benner, Principal-in-Charge.
Ann Reynolds, Environmental Analyst.
Sophia Habl, Environmental Analyst.
Mello Dee Hrdlicka, Biologist and Environmental Analyst.
Jennifer Hobbs, Environmental Scientist.
Jeff Post, Graphic Artist.

Norm Van Winkle, Designer; eight years experience in Computer Aided Design (CAD) in support of transportation and environmental documentation (no longer with P&D)

9.2.15.2 Other Consultants

Brian Pearson, P.E., design, Corridor Design Management Group
Tom Schroeder, P.E., design, Corridor Design Management Group
Mike Howard, SR/WA, Manager, Right-of-Way and Utilities, BBA in Business; 35 years experience in government right-of-way.
Don Roberson, Senior Program Manager; 35 years experience in water resources and waste water planning, construction and administration (wet utilities).
Marty Peterson, Senior Project Manager; 20 years experience in utility consulting and construction industries (dry utilities), Utility Specialists, Inc.

9.2.15.3 Psomas

Daniel McCrosky, GIS.
Duane Haselfeld, GIS.

9.2.16 RECREATION RESOURCES TECHNICAL REPORT

Romi Archer, Task Leader, Assistant Project Manager and Senior Environmental Planner.
Christine Huard-Spencer, Principal and Project Manager
Jennifer Hobbs, Environmental Scientist.

9.2.17 RELOCATION IMPACTS TECHNICAL REPORT (P&D Consultants, Inc.)

Warren Sprague, AICP, Task Leader.
Jerry Flores, Environmental Analyst.
Gretchen Head, Environmental Scientist.
Mello D. Hrdlicka, Biologists and Environmental Analyst.

9.2.18 RIGHT-OF-WAY COST ESTIMATES TECHNICAL REPORT

9.2.18.1 P&D Consultants, Inc.

Warren Sprague, AICP, Task Leader.
Jerry Flores, Environmental Analyst.

9.2.18.2 Corridor Design Management Group

Brian Pearson, P.E., design.
Tom Schroeder, P.E. design.
Mike Howard, SR/WA, utilities.

9.2.18.3 Psomas

Daniel McCrosky, GIS.
Duane Haselfeld, GIS.

9.2.19 RUNOFF MANAGEMENT PLAN (Psomas)

Ken Susilo, P.E. Task Leader, Senior Project Manager.
Bill Whittenberg, P.E. DEE Project Manager.
Novin Rashedi, PH CEPSC Project Manager.
Alex Menez, P.E. Project Engineer.
Soorgul Wardak, P.E. Project Engineer.
Lisa Stromme, P.E. Project Engineer.
Rob Johnson, Environmental Scientist.
Kim Alexander, P.E. Project Engineer.

9.2.20 SOCIOECONOMICS AND GROWTH INDUCING IMPACTS TECHNICAL REPORT

9.2.20.1 P&D Consultants, Inc.

Warren Sprague, AICP, Task Leader.
Jerry Flores, Environmental Analyst.
Gretchen Head, Environmental Analyst.
Mello Dee Hrdlicka, Biologist and Environmental Analyst.
Jeff Post, Graphic Artist.

9.2.20.2 Corridor Design Management Group

Brian Pearson, P.E., design.
Tom Schroeder, P.E., design.
Mike Howard, SR/WA, utilities.

9.2.20.3 Psomas

Daniel McCrosky, GIS.
Duane Haselfeld, GIS.

9.2.21 TRAFFIC AND CIRCULATION TECHNICAL REPORT (Austin-Foust Associates, Inc.)

Terry Austin, Task Leader, Principal-in-Charge, BE in Civil Engineering, MS in Transportation, BS in Mathematics, MBA in Administration; over 30 years experience in all aspects of transportation planning.

Kendall Elmer, Project Manager, BS in Civil Engineering; over 18 years experience in transportation planning.

Phong Le, Transportation Analyst, BS in Mathematics; over 12 years experience in transportation planning and traffic modeling.

Ida Chan, Transportation Analyst, BS in Civil Engineering; four years experience in transportation planning.

Charlie Ho, Transportation Analyst, BS in Civil Engineering; four years experience in transportation planning.

9.2.22 VISUAL IMPACT ASSESSMENT TECHNICAL REPORT

9.2.22.1 P&D Consultants, Inc.

Anne Pietro, Task Leader.
Christine Huard-Spencer, Project Manager and Principal.
Michael Benner, Principal-in-Charge.
Jeff Post, Graphic Artist.

9.2.22.2 Corridor Design Management Group

Brian Pearson, P.E., Project Director, BS and MS in Civil Engineering; 35 years experience in transportation planning, design and construction.

Tom Schroeder, P.E., Senior Highway Engineer, BS in Civil Engineering; 30 years experience in transportation planning, design and construction.

9.2.22.3 Psomas

Daniel McCrosky, Task Leader Geographic Information Systems (GIS).
Howard Hahn, Visual Analysis/GIS Support.

9.2.23 POTENTIAL IMPACTS OF ALTERNATIVE TRANSPORTATION CORRIDORS ON WATERS OF THE UNITED STATES AND RIPARIAN ECOSYSTEMS FOR THE SOUTH ORANGE COUNTY TRANSPORTATION INFRASTRUCTURE IMPROVEMENT PROJECT

R. Daniel Smith, Task Leader, US Army Engineer Research and Development Center, Waterways Experiment Station.

9.3 CONFLICT OF INTEREST

Consistent with the intent of the 1992 Memorandum of Agreement (MOA) between FHWA and the United States Marine Corps (USMC), the Transportation Corridor Agencies (TCA) has required all consultants working on the EIS/SEIR for the SOCTIIP to provide a conflict of interest statement indicating that the consultant (firm or individual, as appropriate) "...does not have any financial or other interest in the outcome of this project, in accordance with the Council on Environmental Quality NEPA Regulations, 40 Code of Federal Regulations (C.F.R.), Section 1506.5(c) (1999)..." and that the consultant "...does not have any agreement, enforceable promise, or guarantee to provide any future work on this project." Signed conflict of interest statements for the consultants who prepared the EIS/SEIR and the technical studies are on file at the TCA offices.

SECTION 10.0
DISTRIBUTION LIST FOR THE DRAFT EIS/SEIR

10.1 FEDERAL AGENCIES

Maiser Khaled
Federal Highway Administration
California Division
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National Marine Fisheries Service – Southwest Region
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Karen Goebel
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U.S. Department of the Interior
Fish and Wildlife Service
Ecological Services
Carlsbad Fish and Wildlife Office
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Carlsbad, CA 92008-4219

Robert Fisher
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Biological Resources Division
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San Francisco, CA 94129

Susan DeSaddi
U.S. Army Corps of Engineers
Regulatory Branch, CESPL-CO-R
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Los Angeles, CA 90017-3401

Nova Blazej
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Jim Omans (LFL)
Headquarters U.S. Marine Corps
Room 3109
2 Navy Annex
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Larry Rannals
Attn: CPLO, Bldg. 1160
Marine Corps Base
Camp Pendleton, CA 92055-5010

Steven John
Federal Office of Wetlands Enforcement
U.S. Environmental Protection Agency, Region 9
915 Wilshire Blvd.
Los Angeles, CA 90053-2325

10.2 STATE AGENCIES

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District Director
Caltrans – District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894

Pedro Orso-Delgado
District Director
Caltrans – District 11
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San Diego, CA 92186-5406

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State of California – The Resources Agency
California Coastal Commission
45 Fremont Street, Suite 2000
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Terri Dickerson
State of California – The Resources Agency
Department of Fish and Game
330 Golden Shore, Ste. 50
Long Beach, CA 90802

William E. Tippets
Environmental Program Manager
State of California – The Resources Agency
Department of Fish and Game
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123

Richard Rayburn, Chief
California Parks & Recreation
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State Clearinghouse
Office of Planning and Research
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State Historic Preservation Officer
Office of Historic Preservation
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Kenneth E. Trott
Environmental Coordinator
Department of Conservation
State of California
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Sacramento, CA 95814

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State of California
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

David R. Pryor
California Department Parks & Recreation
18331 Enterprise Lane
Huntington Beach, CA 92648

10.3 REGIONAL AGENCIES AND SPECIAL DISTRICTS

Paul Lemons
California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Blvd., Ste A
San Diego, CA 92124-1324

Eric C. Pahlke
Director of Transportation
San Diego Association of Governments
401 B Street, Ste 800
San Diego, CA 92101-4231

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
South Coast Air Quality Management District
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Diamond Bar, CA 91765-4182

Jeffrey M. Smith, AICP
Senior Planner – Intergovernmental Review
S. Cal Association of Governments
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Capistrano Unified School District
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San Juan Capistrano, CA 92675-4792

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Sook Young Kim
San Diego Association of Governments
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San Diego, CA 92101

Randy Huttenberger
Director Facilities and Planning
Saddleback Valley Unified School District
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Mission Viejo, CA 92691

Dave Elbaum
Orange County Transportation Authority
550 South Main Street
Orange, CA 92613-1584

Nancy Foreman
Orange County Fire Authority
P.O. Box 86
Orange, CA 92856

10.4 LOCAL AGENCIES AND CITIES

George Britton
Manager-Environmental & Project Planning
Services Division
County of Orange
Planning & Development Services Department
300 N. Flower Street
Santa Ana, CA 92702-4048

Ignacio Ochoa
County Traffic Engineer
County of Orange
Public Facilities & Resources Department
300 N. Flower Street
Santa Ana, CA 92702-4048

Michelle Jordan
County of Orange
Planning & Development Services Department
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Santa Ana, CA 92702-4048

Jeff Dickman, Chief
HBP/Trail Planning and Implementation
County of Orange
Public Facilities & Resources Department
300 N. Flower Street
Santa Ana, CA 92702-4048

City Manager
City of Rancho Santa Margarita

30211 Avenida de las Banderas, Ste 101
Rancho Santa Margarita, CA 92688

City Manager
City of Irvine
One Civic Center Plaza
P.O. Box 19575
Irvine, CA 92623-9575

City Manager
City of San Clemente
100 Presidio Avenue
San Clemente, CA 92672

City Manager
City of La Habra
201 E. La Habra Blvd.
La Habra, CA 90633-0337

City Manager
City of Lake Forest
23161 Lake Center Drive, Ste 100
Lake Forest, CA 92630

City Manager
City of Mission Viejo
200 Civic Center
Mission Viejo, CA 92691

City Manager
City of Laguna Niguel
27801 La Paz Road
Laguna Niguel, CA 92677

City Manager
City of Laguna Woods
24264 El Toro Road
Laguna Woods, CA 92653

City Manager
City of Laguna Hills
25201 Paseo De Alicia, Suite 150
Laguna Hills, CA 92653

City Manager
City of Laguna Beach
505 Forest Avenue
Laguna Beach, CA 92651

City Manager
City of San Juan Capistrano
32400 Paseo Adelanto
San Juan Capistrano, CA 92675

City Manager
City of Dana Point
33282 Golden Lantern
Dana Point, CA 92629

City Manager
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

City Manager
City of Orange
300 East Chapman Avenue
Orange, CA 92663

City Manager
City of Anaheim
3200 South Anaheim Boulevard
Anaheim, CA 92805

City Manager
City of Yorba Linda
4845 Casa Loma Avenue
Yorba Linda, CA 92885

City Manager
City of Santa Ana
20 Civic Center Plaza
Santa Ana, CA 92701

City Manager
City of Tustin
300 Centennial Way
Tustin, CA 92780

10.5 GROUPS, ORGANIZATIONS AND HOMEOWNERS' ASSOCIATIONS

Bill Corcoran
Conservation Coordinator
Sierra Club, Angeles Chapter
3435 Wilshire Blvd., Ste 320
Los Angeles, CA 90010-1904

Karen Caiozzo, Secretary
Aegean Hills Homeowners Association, Inc.
P.O. Box 2732
Mission Viejo, CA 92690-2732

Marvin J. Rosen, President
Meredith Canyon Community Association
27052 Calle Esperanza
San Juan Capistrano, CA 92675

Sandy Meyer
General Manager
Lake Forest Community Association
22921 Ridge Route Drive
Lake Forest, CA 92630

National Audubon Society
Attention: Pete Desimone
P.O. Box 967
Trabuco Canyon, CA 92678

Surfrider Foundation
Attention: Christopher Evans
122 S. El Camino Real #67
San Clemente, CA 92672

Friends of the Foothills
Attention: Brittany McKee
P.O. Box 3942
San Clemente, CA 92674

Stephen Stanton
Association Manager
Pacifica San Clemente Homeowners Association
30320 Ranch Viejo Rd.,
San Juan Capistrano, CA 92675

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Natural Resources Defense Council
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Los Angeles, CA 90048

David Hogan
Center for Biological Diversity
P.O. Box 628
Santa Ysabel, CA 82070

James W. Royle, Chairperson
Environmental Review Committee
San Diego County Archaeological Society
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San Diego, CA 92138-1106

Pam Bashline
Community Manager
Talega Gallery Community Association
22 Calle Galleria
San Clemente, CA 92673

Joe Martinez
Talega Maintenance Corporation
Talega Swim and Athletic Club
100 Calle Altea
San Clemente, CA 92673

Dan Silver, Coordinator
Endangered Habitats League
8424-A Santa Monica Blvd.
Suite 592
Los Angeles, CA 90069-4267

10.6 BUSINESSES, BUSINESS GROUPS AND MAJOR LAND OWNERS

San Clemente Downtown Business Association
P.O. Box 114
San Clemente, CA 92672

Orange County Business Council
Attn: Julie Puentes
2 Park Plaza, Ste. 100
Irvine, CA 92614

John F. Boslet
Vice President Transportation
The Irvine Company
550 Newport Center Drive
P.O. Box 6370
Newport Beach, CA 92658-6370

City of San Clemente
Chamber of Commerce
1100 N. El Camino Real
San Clemente, CA 92672

Ms. Laura Coley Eisenberg, Director
Planning and Entitlement
Rancho Mission Viejo
PO Box 9
San Juan Capistrano, CA 92693

Talega
951 Calle Negocio D
San Clemente, CA 92673

Forester Ranch
915 Calle Amanecer, C
San Clemente, CA 92673

10.7 LIBRARIES

Mission Viejo Library
100 Civic Center
Mission Viejo, CA 92691

Laguna Niguel Library
30341 Crown Valley Parkway
Laguna Niguel, CA 92677

San Juan Capistrano Regional Library
31495 El Camino Real
San Juan Capistrano, CA 92675

Oceanside Library
330 North Coast Highway
Oceanside, CA 92054

Canyon Hills Library
400 Scout Trail
Anaheim Hills, CA 92807

Santa Ana Library
26 Civic Center Plaza
Santa Ana, CA 92701
Garden Grove Regional Library
11200 Stanford Avenue
Garden Grove, CA 92840

El Toro Library
24672 Raymond Way
Lake Forest, CA 92630

Laguna Woods Library
24264 El Toro Road

Laguna Woods, CA 92653

Dana Point Library
33841 Niguel Road
Dana Point, CA 92629

Irvine Heritage Library
14361 Yale Avenue
Irvine, CA 92604

Anaheim Central Library
500 West Broadway
Anaheim, CA 92805

Foothill Ranch Library
27002 Cabriole Way
Foothill Ranch, CA 92610

Ladera Ranch Library
29551 Sienna Parkway
Ladera Ranch, CA 92694

Rancho Santa Margarita Library
30902 La Promesa
Rancho Santa Margarita, CA 92688

Laguna Beach Library
363 Glenneyre Street
Laguna Beach, CA 92651

San Clemente Library
242 Avenida Del Mar
San Clemente, CA 92672

Orange Library
101 N. Center Street
Orange, CA 92866

Yorba Linda Library
18181 Imperial Highway
Yorba Linda, CA 92886

Tustin Library
345 E. Main Street
Tustin, CA 92780

Jack Langson Library
University of California, Irvine
P.O. Box 19557, Bldg. 102
Irvine, CA 92623-9557

SECTION 11.0
COMMENTS AND COORDINATION

11.1 OBJECTIVES OF PUBLIC INVOLVEMENT

The public has been involved in the planning process for the Foothill Transportation Corridor – South (FTC-South) since the early 1980s when the corridor was considered for inclusion on the County of Orange Master Plan of Arterial Highways (MPAH). Even before that time there were a number of planning studies, such as the Southeast Orange County Transportation Study, the Northeast Orange County Transportation Study and the Multi-Modal Transportation Study, that identified the need for a high-speed corridor along the foothill area. All these early studies solicited input from the public, agencies and local jurisdictions. It has been this input from citizens, businesses, affected government bodies and interested parties that has been used to define and address public concerns throughout the FTC planning process.

The public involvement programs that have been implemented throughout the planning process for the FTC have been multi-purpose. The primary focus of the public involvement has been to (1) inform the public and agencies of the ongoing planning process and the results of the technical studies that have been conducted, (2) solicit the public's and agencies' concern and seek information regarding resources that would be affected by the project, and (3) utilize the concerns and feed back from item 2 to improve the project, reduce impacts and inform the design-making process. Measures have been taken to incorporate the concerns of individuals, interest groups, and agencies to develop the most effective project in meeting the circulation needs of Orange County while protecting resources, to the extent feasible.

The following Sections describe the public information and environmental process from the early 1980s through the present time.

11.2 HISTORY OF PUBLIC INVOLVEMENT

Environmental Impact Report (EIR) 123 (County of Orange, 1981) was prepared to address the impacts associated with the corridor as part of the County of Orange MPAH process to add the corridor to the MPAH. In conjunction with the EIR preparation and review process, a public participation program was conducted to integrate community concerns and ensure broad citizen awareness of the project. The public and appropriate agencies were notified of the project through the distribution of the Notice of Preparation (NOP) on November 19, 1980, which solicited input as to the appropriate scope and focus of the EIR. A total of 21 responses to the NOP were received from various agencies and organizations. These comments focused on air quality, traffic, biological resources, growth inducement and the associated impacts on schools, consistency with regional planning efforts, and compatibility with land use patterns. Public workshops were held at various locations in northeast and southeast Orange County. The EIR was distributed for public review, and 32 comments from agencies and the public were received. Planning Commission hearings were held on June 23 and July 21, 1981. The Board of Supervisors heard the item in August 1981. At all of these hearings, public testimony was taken. EIR 123 was certified as final by the Board of Supervisors on August 26, 1981 (Resolution No. 81-1279).

The Final EIR includes detailed discussion of the public involvement program for EIR 123 and copies of comments received from the public and agencies.

11.3 PHASE I STUDIES OF PUBLIC INVOLVEMENT

In 1985, the County of Orange initiated an Alternatives Alignment Analysis process for the FTC, previously called the Cristianitos segment of the FTC. The public scoping process was a key component

of the analysis. The purpose of the scoping phase was to gather data, develop alternatives and prepare a comparative analysis for all the corridor alternatives. A wide array of alternatives was considered at this early phase of the project as shown in Figure 11.3-1. Figures and tables cited in this Section are provided following the last page of text in this Section.

The public scoping process for FTC was initiated on February 20, 1986, with a public information forum held at San Clemente High School. The purpose of this meeting was to introduce the project to the public and receive input on their concerns. At this meeting, an alternative was recommended for the vicinity of La Pata Avenue that connected with I-5 at Avenida Pico. This alternative became known as the BX Alternative.

Formal scoping meetings were held on April 16, 1986, in San Juan Capistrano and April 24, 1986, in San Clemente. These meetings were noticed in the Orange County Register on April 3, 1986. Three primary concerns were raised at these meetings. One concern was the impact on existing development from the alternatives in the vicinity of San Juan Creek and La Pata Avenue, or those that connect with I-5 at Avenida Pico. Another concern dealt with the biological impacts that would result from corridor construction, especially with the more easterly alternatives. The potential growth inducing impacts of the corridor were also a concern. Additional scoping meetings were held by Caltrans on July 9 and 15, 1986. The same concerns were identified at the Caltrans' scoping meetings.

In addition to the formal scoping meetings, there were numerous meetings with representatives of Marine Corps Base (MCB) Camp Pendleton, the affected cities, landowners, state and federal agencies, and public interest groups. During the scoping process, six meetings (November 20, 1985, and January 22, and March 19, May 28, July 23 and September 3, 1986) were held with a technical advisory group consisting of state, federal and local agencies and the major landowners in the area. In addition, newsletters were sent on December 11, 1985, and February 1 and March 28, 1986, to approximately 700 people who had expressed an interest in the study.

Briefing meetings were held with MCB Camp Pendleton on October 30, 1985, and July 15, 1986, to review the status of the project and the interface with military operations. On August 29, 1985, the County of Orange had a briefing meeting with the County of San Diego and the San Diego Association of Governments (SANDAG) staff. Additionally, throughout this process there were various presentations on the project to staff of the local agencies, Chambers of Commerce and community groups.

The results of the scoping analysis were presented in two documents: the Foothill Transportation Corridor Cristianitos Segment Environmental Baseline Study (County of Orange, September 1, 1986) and the Foothill Transportation Corridor Alternative Alignment Analysis Cristianitos Segment (Michael Brandman Associates, September 1986). There reports were distributed for review by public agencies, land owners, lease holders of affected properties, and interest groups. The project was presented at a public hearing, before the Orange County Planning Commission on October 15, 1986, and the Orange County Board of Supervisors on November 5 and 19, 1986. The TCA Board of Directors held a public hearing on November 13, 1986. These hearings were noticed in the Orange County Register on October 3, 1986. Based on these reports and public testimony in November 1986, the Orange County Board of Supervisors and TCA selected four primary alternatives for further study.

Anticipating that an EIS/EIR would be prepared immediately following the completion of the Alternatives Alignment Analysis, an NOP was distributed to agencies and interested parties on June 9, 1986, and a Notice of Intent was published in the Federal Register on June 4, 1986. A detailed briefing paper was distributed to 75 federal, state and regional organizations on June 18, 1986. Subsequently, it was decided to delay the federal environmental process to allow resolution of local issues. As a result, an EIR pursuant only to CEQA was prepared to identify the locally Preferred Alternative.

11.4 PHASE II PUBLIC INVOLVEMENT

11.4.1 TCA EIR NO. 3

An NOP for TCA EIR 3 was distributed on December 6, 1989. Twenty agencies and public groups responded to the NOP. A full range of concerns was raised including land use, traffic, public services and utilities, open space and recreation, biological resources, military impacts, hydrology, noise and air quality.

TCA Draft EIR 3 was released for public review on August 9, 1990, and the public review period ended October 9, 1990. Notices of Availability (NOA) were published in the Orange County Register and the Los Angeles Times on August 9, 1990, and posted at the Counties of Orange and San Diego and San Clemente City Hall; notice of the September 10, 1990, public meeting in the City of San Clemente was distributed to approximately 12,000 residents; and notices of the TCA Board of Directors' public hearing was published in the Orange County Register and the Los Angeles Times on November 14, 1990. The Draft EIR was distributed to local, state and federal agencies, and a NOA was sent to property owners within 91.44 meters (300 feet) of the corridor in August 1990.

The TCA held a public meeting on September 10, 1990, at the City of San Clemente Community Center to receive comments and answer questions pertaining to Draft EIR 3. Approximately 400 individuals were in attendance. The City of San Clemente Planning Commission meeting on October 2, 1990, and the City Council meeting on October 3, 1990, offered residents additional opportunities to comment on Draft EIR 3.

Numerous comments on Draft EIR 3 were received. Written responses to the comments were circulated for public review in June 1991. The primary areas of concern raised during the public review process were: natural resources, alternatives, traffic, parkland and open space impacts, hydrology/water quality, land use impacts, growth inducement, noise and aesthetics.

In response to concerns raised over the design of the Alignment identified in Draft EIR 3, modifications were incorporated, including the inclusion of wildlife crossings at key locations. Additionally, the TCA formed a C Alignment Committee composed of representatives of the TCA, the City of San Clemente, MCB Camp Pendleton and the State Department of Parks and Recreation. The purpose of the committee was to discuss modifications to the C Alignment that could meet the goals of each agency. This committee developed a Modified C Alignment, which shifted the alignment through San Onofre State Beach (SOSB). In addition, a portion of the alignment was placed below grade (below Cristianitos Road) in the vicinity of San Clemente residences. A Draft Supplemental EIR was prepared to address these modifications to the C Alignment along with the responses to comments on the Draft EIR 3. Notice of availability of the draft supplemental EIR and response to comments was distributed by first class mail. The notice of availability was published in the Orange County Register and Los Angeles Times and posted with both San Diego and Orange County Clubs, on July 1, 1991. On October 10, 1991, the TCA Board of Directors adopted the Modified C Alignment as the locally Preferred Alternative and certified the EIR as adequate.

On November 9, 1991, a lawsuit was filed pertaining to the adequacy of the EIR prepared for the project. The petitioners included San Clementeans Against Toll Roads, Inc., Defenders of Wildlife and the Sierra Club. As a result of the lawsuit, the TCA and the petitioners entered into a stipulated agreement that outlined studies to be included in the subsequent federal environmental documentation, general methodology guidelines and review processes. These provisions are addressed in the EIS/SEIR.

11.4.2 OTHER AGENCY COORDINATION

Throughout the development of TCA EIR 3, there was extensive coordination with a number of federal, state and local agencies. Though not a federal document, Caltrans participated in all the project development team meetings on the project and there were a number of meetings with FHWA to review the permitting and documentation requirements for an EIS/SEIR on the project. In addition to the regular coordination, such as the NOP data gathering meetings and extensive correspondence, and the C Alignment Committee, there were other coordination meetings with the following interested agencies:

County of Orange. Three meetings between 1988 and early 1990 to discuss impacts to regional parks, cultural resources and air quality issues.

United States Fish and Wildlife Service. One meeting in 1988 to discuss biological resource analysis needs.

California Department of Fish and Game. One meeting in 1988 to discuss biological resource analysis needs.

California Department of Parks and Recreation. Two meetings between 1988 and 1990 to discuss impacts to SOSB.

MCB Camp Pendleton. Seven meetings between 1989 and 1990 to discuss impacts to the Base.

City of San Clemente. Two meetings in 1989 to discuss traffic issues and other impacts on the City.

City of San Juan Capistrano. One meeting in 1990 to discuss the City's concerns regarding the FTC-South.

United States Environmental Protection Agency. One meeting in 1990 to discuss air quality issues.

Southern California Association of Governments. One meeting in 1990 to discuss air quality issues.

11.5 PHASE II PUBLIC AND AGENCY INVOLVEMENT FOR THE EIS/SEIR (PRE-SOCTIIP)

11.5.1 COOPERATING AGENCIES AND THE NEPA/SECTION 404 INTEGRATION PROCESS

In compliance with 40 CFR 1501.6, FHWA sent letters on August 31, 1993 requesting that USFWS, EPA, ACOE and the California Coastal Commission (CCC) be cooperating agencies on the project. EPA and CCC declined to be cooperating agencies. While USFWS declined to be a cooperating agency, they expressed an interest in remaining involved in the preparation of the EIS/SEIR through the NEPA/Section 404 Integrated Process. Additionally, there was early coordination with the MCB Camp Pendleton regarding their involvement in the EIS/SEIR process. MCB Camp Pendleton is a cooperating agency on the project and entered into a MOU with FHWA regarding the preparation of the EIS/SEIR.

The NEPA/Section 404 Integration Process MOU was executed during 1993 and 1994 among FHWA, Caltrans, EPA, ACOE, USFWS and National Marine Fisheries Service (NMFS) on the processing of transportation projects to ensure that the requirements of NEPA and the Clean Water Act are met. The agencies entered into an MOU outlining provisions that needed to met at various stages of the process. As part of the NEPA/Section 404 Integration Process, FHWA has coordinated with USFWS, ACOE, EPA and NMFS on the project. On December 6, 1996 a letter was sent to the participating agencies that

outlined the status of NEPA/Section 404 Integration Process as it relates to FTC-South. At that time, the agencies were requested to concur with the purpose and need for the project and alternatives. In response to concerns raised further coordination followed. On May 19, 1997 further supporting documentation was transmitted to the agencies. A field trip with agency representatives to review the project study area was held on May 30, 1997. Further follow up meetings were held. Concurrence was achieved among the agencies and the purpose and need statement was finalized on March 26, 1999.

11.5.2 SCOPE OF WORK FOR THE EIS/SEIR

FHWA and Caltrans coordinated with interested agencies and the petitioners from the lawsuit on TCA EIR 3 on the scope of work for the EIS/SEIR. The draft scope of work was distributed to the members of the Foothill South Advisory Committee (FSAC) and the petitioners (discussed later in this Section) for review and comment. Once the comments were received, revisions to the scope of work were made. A meeting was held on June 28, 1995 with the FSAC to review the proposed final scope of work for the EIS/SEIR. This scope of work was approved by the TCA Board of Directors on July 13, 1995. The scope of work was updated and expanded in 1999 and 2000 for the SOCTIIP EIS/SEIR.

11.5.3 SCOPING FOR THE EIS/SEIR

FHWA used a number of methods to elicit input from public agencies, organizations and individuals on the scope of the EIS/SEIR. A revised NOI was published in the Federal Register to reinitiate the federal environmental process. As previously indicated, the initial NOI was published on June 4, 1986. Revised NOIs were subsequently published on January 11, 1991, and December 16, 1993, indicating that FHWA was reinitiating the preparation of the EIS/SEIR for the FTC-S. The December 16, 1993 NOI cited the earlier consultation efforts and stated that FHWA believed this extensive effort to be consistent with 40 CFR 1501.7 regarding scoping. Additionally, two agency and two public meetings were held on August 25 and September 16, 1994, as summarized below. A revised NOI for the public meetings held in March 2001 was published in the Federal Register on February 20, 2001. The exact dates and locations of the March 2001 meetings were provided in a supplemental NOI published in the Federal Register on March 14, 2001. Copies of all NOIs are available for review during regular business hours at TCA offices.

11.5.3.1 AGENCY SCOPING

Agency Pre-Scoping Meeting (January 12, 1994)

FHWA, in coordination with Caltrans and the TCA, held a pre-scoping meeting on January 12, 1994, at the offices of Michael Brandman Associates, 2530 Red Hill Avenue, Santa Ana, California. The purpose of this meeting was to allow public agencies with resources potentially affected by the project an opportunity to identify key items for analysis that should be incorporated into the scope of work for the EIS/SEIR. An overview of biological surveys to be conducted in 1994 was provided. CDFG, USFWS, ACOE, MCB Camp Pendleton, EPA and the CCC were invited to the meeting. MCB Camp Pendleton and ACOE attended, in addition to FHWA, Caltrans, TCA and environmental consultants.

Following is a summary of the issues raised by the agencies attending the meeting:

MCB Camp Pendleton

1. Commented on the 0.4 km (0.25 mile) study area for biological surveys. Approximately 283 ha (700 acres) of land north of the corridor would be isolated from the rest of the Base with project implementation.

2. Requested clarification regarding the schedule for the preparation of the EIS/SEIR scope of work, involvement of MCB Camp Pendleton and the timing of reviews of the scope of work.

3. Requested information on what would be required of MCB Camp Pendleton to facilitate the EIS/SEIR process, specifically the completion of biological surveys in 1994.

4. Commented on the timing and development of mitigation measures. MCB Camp Pendleton requested that they be involved in this process.

5. A request was made to have individual meetings to discuss other issue areas such as hydrology and water quality and impacts on military operations and training activities.

United States Army Corps of Engineers

1. Identified that the NEPA/Section 404 Integrated Process was being developed. An MOU between ACOE, FHWA, Caltrans and the Federal Transit Administration (FTA) would identify guidelines for coordination of transportation projects with ACOE.

United States Fish and Wildlife Service

1. The proposed corridors traverse prime gnatcatcher habitat.

2. The NCCP and multispecies programs currently being developed are significant issues which should be addressed in the EIS/SEIR.

3. The corridors traverse prime undeveloped areas.

4. USFWS is assuming the cactus wren will be listed and should be treated as such in the EIS/SEIR.

Agency Scoping Meeting (February 2, 1994)

The agency scoping meeting was held on February 2, 1994, at the City of Santa Ana City Council Chambers, 20 Civic Center Plaza, Santa Ana, California. The scoping meeting was noticed in the Federal Register on December 16, 1993, and notices were sent to agencies on January 7, 1994. A copy of the notification letter and distribution list is included in the Record of Public Scoping Report. As part of the notification letter, agencies received a project briefing paper which included a brief description of the project, background information and discussion of the alternative development process; project communications; and information on the project schedule. Mail-in comment cards were provided, with written comments requested by February 15, 1994.

The following agencies were represented at the scoping meeting. A list of attendees is included in the Record of Public Scoping Report.

- United States Fish and Wildlife Service.
- MCB Camp Pendleton.
- United States Army Corps of Engineers.
- California Department of Fish and Game.
- California Department of Parks and Recreation.

- County of Orange.
- City of Mission Viejo.
- City of San Clemente.

Following is a summary of issues raised by agency representatives at the scoping meeting.

United States Fish and Wildlife Service

1. Wanted to ensure that previous USFWS correspondence on TCA FEIR 3 and the TCA Supplemental EIR 3 were included in the record for the EIS/SEIR.

2. Noted that a minimum of two federally listed species are located in the project area and would require directed surveys (California gnatcatcher and least Bell's vireo).

3. The pacific pocket mouse was emergency-listed on January 31, 1994, and needs to be addressed in the EIS/SEIR.

4. The potential growth-inducing effects of the project, specifically related to biological resources and federally listed species, need to be addressed in the EIS/SEIR.

MCB Camp Pendleton

1. Requested additional information on avoidance alternatives that would be evaluated in the EIS/SEIR.

California Department of Fish and Game

1. Expressed concern regarding cumulative project impacts specifically related to habitat fragmentation.

2. Expressed concern regarding the analysis of impacts on wildlife crossings. Relying on facilities in the Master Plan of Arterial Highways (i.e., riding and hiking trails) would not be adequate.

3. CDFG will provide a list of species it is concerned with.

4. Commented that the FTC-South planning should not preclude planning for NCCP.

City of San Clemente

1. Voiced concern regarding the selection of viewsheds for visual simulations of the project. The city would like to be involved in this selection process.

2. Expressed concern with the location and timing of public scoping meetings.

City of Mission Viejo

1. Questioned which traffic model would be used to evaluate traffic impacts associated with implementation of the project.

Additionally, written letters regarding these issues were received by the TCA from the Cities of San Clemente and Mission Viejo.

Public Scoping Meetings

FHWA, in coordination with the TCA and Caltrans, held two public scoping meetings for the EIS/SEIR; the first was on August 25, 1994, in the City of Oceanside and the second was September 16, 1994, in the City of San Clemente. Notification of these meetings was published in the Orange County Register, the Sun Post News and La Opinion on July 29, 1994; and the Blade Citizen and San Diego Union Tribune on July 30, 1994. Additionally, notice of the meeting in San Clemente was published on September 2, 1994, in the Los Angeles Times and the Orange County Register. Notices were sent by first class mail to the agencies and interested individuals on the distribution list developed during the TCA EIR 3 process.

To facilitate the scoping process and the dissemination of the information, the public scoping meetings were conducted in an "open house" style. The meetings were divided into three stations. Station 1 provided a video which outlined the history of the project, the purpose of the scoping meeting and the other relevant project information. Station 2 provided maps and exhibits depicting the proposed BX and CP alignments and the issues to be addressed in the EIS/SEIR. Additionally, representatives from FHWA, Caltrans, the TCA and the consultant team were available to answer questions regarding the project. At Station 3, certified court reporters were available to record comments made by individuals attending the meetings. Handouts which provided detailed information on the scoping process and the project were provided to attendees. All information related to the two public scoping meetings (handouts, sign-in sheets, comment letters, reduced copies of the exhibits, reporter's transcripts) is provided in the Record of Public Scoping Report. Following is a summary of the individual meetings:

- Oceanside (August 25, 1994). The public scoping meeting in the City of Oceanside was held at the Oceanside Senior Center at 455 Country Club Lane between the hours of 4:30 PM and 7:30 PM. Approximately 33 people attended this meeting. Two people provided comments to the court reporter.
- San Clemente (September 16, 1994). This meeting was held at the San Clemente Community Center Auditorium at 100 N. Calle Seville, also between the hours of 4:30 PM and 7:30 PM. Approximately 86 people attended the meeting, and 14 people provided testimony to the court reporter. Additionally, three people provided tape-recorded comments.

As part of the scoping process, the public was encouraged to provide input as to what issues should be addressed in the EIS/SEIR. This input was received in the form of verbal comments at the public meeting and through written correspondence. A summary of the issues/concerns raised during the public scoping process is provided below.

General Issues

- Purpose and need for the FTC-South.
- Potential cumulative and growth-inducing impacts.
- Taxpayers should not have to pay for a roadway that benefits developers.
- TCA needs to fulfill requirements of Intermodal Surface Transportation Efficiency Act (ISTEA).
- A Major Investment Study needs to be completed.
- Data/forecasts used in EIR are out of date and need to be updated for the EIS/SEIR.
- The cost of constructing FTC-South should be disclosed.
- The EIS/SEIR should identify FTC-South "users."
- Explain how Caltrans will be able to fund maintenance of FTC-South after it is constructed.

Alternatives

- A mass transit alternative should be analyzed.
- Evaluate a connection with I-15.
- Evaluate TSM improvements.
- An alternative based on transit-oriented development for future development projects.

Socioeconomics

- Widening of I-5 would result in substantial displacements.
- Removal of the offramps would affect the economic viability of businesses.
- The project would affect property values in surrounding areas.

Traffic/Circulation

- The project would result in an "El Toro Y" at the intersection of the FTC-South and I-5.
- The project would result in congested traffic conditions on local arterials.
- Improve the local circulation network as an alternative to building a new roadway.
- FTC-South is not necessary with the extension of Antonio Parkway/La Pata Avenue.

Hydrology/Water Quality

- There would be water quality impacts as a result of runoff.
- Assess the impacts of the project related to water supply.

Biological Resources

- The biological assessment should consider all native species, not just those protected by the resources agencies.
- The EIS/SEIR should consider potential impacts on the dispersal, migration and other movements of large mammals.
- Compatibility with the NCCP should be addressed.
- Wetlands should be protected.
- The EIS/SEIR should consider ecosystem functions.

Land Use

- The Trestles Beach area of San Onofre State Beach should be protected.
- Park areas along the FTC-South should be avoided.
- BX alignment would affect existing residential development in the City of San Clemente.
- The EIS/SEIR should address community cohesiveness in the City of San Clemente.

- The project would affect the rural character of residential development in the City of San Juan Capistrano.
- The interchange with Avenida Pico would negatively affect surrounding residents.

Other Environmental Issues

- The project would result in decrease in air quality.
- Historical sites are located in the project area and should be protected.
- The project would result in noise and aesthetics impacts on surrounding uses should be considered.

11.5.4 MAJOR INVESTMENT STUDY

In accordance with the requirements of ISTEA, a Major Investment Study (MIS) was prepared for the FTC-South. The MIS is a tool for improving decisions regarding transportation investments in metropolitan areas (see 23 CFR 450.318). SCAG, as the MPO for the region, was the lead agency on the MIS for the FTC-South. The Foothill Transportation Corridor-South Major Investment Study (Michael Brandman Associates, 1996) provides detail on the history of the proposed project, the development of the alternatives, past public and agency involvement in the process, the consistency of the FTC-South with the transportation planning process, an analysis of the potential environmental impacts, and financial considerations of the alternatives.

The agencies identified as participating agencies in the MIS process included:

- SCAG
- Caltrans Districts 11 (San Diego and Imperial Counties) and 12 (Orange County)
- FHWA
- Federal Transit Administration
- OCTA
- SANDAG
- North County Transit District (San Diego County)
- SCAQMD

On February 21, 1996 the FTC-South was presented to the SCAG MIS Peer Review Committee. An FTC-South briefing paper and the proposed outline of the MIS were discussed. Based on that meeting, the TCA was given direction to complete the MIS consistent with the outline provided. The draft MIS was submitted for review by the Peer Review Committee. Comments on the draft MIS were received and revisions to the MIS were incorporated accordingly. The Final MIS was submitted to SCAG on April 18, 1996 and presented to the Peer Review Committee on April 25, 1996. A letter acknowledging the completion of the MIS process for the FTC-South was sent to the TCA by SCAG on May 7, 1996. After action by SCAG, the MIS was also reviewed by the SANDAG MIS review committee. The SANDAG review included Caltrans District 11 and the North San Diego County Transit Development Board. A letter from SANDAG concurring with the SCAG determination was sent to FHWA on July 24, 1996.

11.5.5 FOOTHILL SOUTH ADVISORY COMMITTEE

The FSAC was established to ensure continued coordination with cooperating and local agencies throughout the EIS/SEIR process. Quarterly meetings provided an opportunity to update the interested agencies on the status of work completed, issues that have arisen, significant problems, anticipated upcoming work, and overall schedule compliance. The representative on the FSAC acts as a liaison on the project with their respective agencies. The FSAC, as amended, is comprised of the following agencies:

- FHWA
- TCA
- Caltrans Districts 11 and 12
- MCB Camp Pendleton
- Army Corps of Engineers
- California Coastal Commission
- County of Orange
- SCAG
- San Diego Association of Governments
- Rancho Mission Viejo Land Conservancy
- Environmental Protection Agency
- United States Fish and Wildlife Service
- California Department of Fish and Game
- State Department of Parks and Recreation
- City of San Clemente
- City of San Juan Capistrano
- City of Mission Viejo
- Rancho Mission Viejo Company
- Orange County Transportation Authority
- SANDAG

The FSAC was provided the opportunity to review a draft scope of work for the EIS/SEIR. Comments on the scope of work were either incorporated or responded to in writing by the TCA. The first FSAC meeting discussed the final scope of work, the project schedule and discussed concerns of the agencies. Additionally, in August 1995 there were workshops to review methodologies, study area and anticipated coordination efforts. Subsequent meetings were held approximately once a quarter. The FSAC met on 8 occasions between 1995 and 1998.

11.5.6 COORDINATION WITH THE PETITIONERS AND ENVIRONMENTAL INTEREST GROUPS

As part of the settlement agreement on TCA EIR 3, the TCA agreed to involve the Petitioners (representatives from San Clementeans Against Toll Roads, Inc., Defenders of Wildlife and the Sierra Club) in the preparation of the EIS/SEIR at numerous points through the process. This included allowing the Petitioners to review and comment on the scope of work and review the technical reports and administrative draft EIS/SEIR with the FSAC. Coordination with the Petitioners on the scope of work occurred in December 1993. Similar to the purpose of the FSAC, the early review was intended to solicit early input from these concerned citizens. In November 1995, prior to the completion of any technical studies, the public review group was expanded to include a representative from Defenders of Wildlife, who had expressed an interest in the project. In addition to providing the technical studies for early review, the TCA arranged petitioner's workshops for each of the technical studies. After having the technical report for approximately 10 days, the preparer of the technical report would provide an overview of the report and be available for answering any questions. The workshops were scheduled in the evening at the TCA offices:

- July 29, 1996
- Initial Site Assessment (hazardous materials)

- August 19, 1996
- September 9, 1996
- September 23, 1996
- October 7, 1996
- October 21, 1996
- November 12, 1996
- January 13, 1997
- January 27, 1997
- Geotechnical Report
- Traffic and Location Hydraulics
- Natural Environment Study (biological resources)
- Run-off Management Plan
- Noise Report
- Air Quality and Visual Impacts
- Socioeconomics
- Section 4(f) and Cultural Resources

Not all the workshops were held because of lack of attendance by the petitioners and environmental interest groups. Written comments were received on the Traffic Report and Section 4(f) Evaluation. These comments were responded to in writing by the TCA.

11.5.7 TRAFFIC TECHNICAL COMMITTEE

At the onset of the preparation of the traffic technical report in 1995, a traffic technical committee was established to provide a forum for the local jurisdictions that would be affected by the FTC-South to provide input on the modeling effort and the socioeconomic data to be used. It was important that there be a consensus on these issues since it would determine the data that would be provided by the traffic model. The jurisdictions that participated were asked to review the land use distribution from the OCP-92 data to the traffic analysis zones within their area of jurisdiction and other parameters of the traffic model. They provided information on the circulation network and performance criteria. Each participant was given the opportunity to review the early data output prior to the preparation of all the circulation model runs. The following agencies were invited to participate in the traffic technical committee:

- Caltrans
- OCTA
- City of San Juan Capistrano
- TCA
- County of Orange
- City of Mission Viejo
- City of San Clemente
- City of Laguna Niguel

Part way through this process, MCB Camp Pendleton joined the committee. In addition to the local jurisdictions, the Santa Margarita Company (predecessor to the Company) was invited to participate since they are the primary land owner in the study area. This group met on six occasions between December 12, 1995 and April 2, 1996.

11.5.8 OTHER AGENCY COORDINATION EFFORTS

In addition to the meetings identified above, there were other coordination efforts with both agencies and the public. Over 100 meetings were held with various agencies to identify concerns, discuss protocols, and evaluate impacts and mitigation measures. In addition there were numerous correspondences and transmission of data with involved agencies. The following is a synopsis of that effort:

- MCB Camp Pendleton-Meetings and correspondence with Marine Corps staff between 1994 and 1997 pertaining to biological resources, military impacts, geotechnical considerations, Section 4(f), noise and visual impacts. MCB Camp Pendleton is the lead agency regarding all issues on the Base.

- USFWS-Meetings and correspondence with the agency focused on survey protocols, impacts and project alignment.
-
- ACOE- As the lead agency for the Section 404 (b)(1) process, there have been meetings and correspondence with the ACOE to discuss wetland issues.
- CDFG-There were several meetings, as well as correspondence with CDFG to discuss biological issues.
- California Department of Parks and Recreation-As the leaseholder for SOSB, there were meetings with State Parks to discuss the impacts to SOSB and the resources within the State leasehold.
- County of Orange-The majority of the alignments traverse unincorporated Orange County. There were meetings and correspondences to discuss land use impacts, Section 4(f) and impacts to Prima Deshecha Sanitary Landfill.
- Orange County Transportation Authority-There were two coordination meetings and seven correspondences regarding circulation issues.
- City of San Juan Capistrano-There were meetings and correspondences with the City to discuss project alignment and land use issues.
- City of San Clemente-There were meetings to discuss Section 4(f) resources, potential economic impacts and land use impacts. In addition, there has been correspondence or data transmittals pertaining to potential impacts to the City.
- City of Oceanside-There were meetings with the City to discuss land use and growth inducing issues.
- City of Carlsbad-A meeting was held with the City to discuss land use and growth inducing issues.
- San Diego Association of Governments-Meetings have been held to provide a briefing on the project and discuss land use and growth inducing efforts. In addition, there have been written correspondences and data transmittals.
- Capistrano Unified School District-The TCA met with District staff to discuss impacts to the District as a whole, and San Clemente High School and Ole Hanson Elementary School specifically.
- Rancho Mission Viejo Company-As the major landowner in the area, there were a number of meetings and correspondences with the Rancho Mission Viejo Company to discuss access permits, agricultural operations, development phasing, available mapping and biological resources.
- City of Mission Viejo-Coordination efforts with the City, through meetings and correspondences, focused on land use and traffic issues.
- Orange County Fire Authority-There was a meeting and correspondences to discuss the potential impacts associated with the alternative alignments on the provision of fire service.
- EPA-There was correspondences or data transmittals between the lead agencies or consultant team and EPA.
- California Coastal Commission-There were correspondences or data transmittals between the lead agencies or consultant team and the CCC.
- Southwest Division Naval Facilities Engineering Command-There were meetings and correspondences between the lead agencies or consultant team and Southwest Division of Naval Facilities Engineering Command pertaining to cultural and biological resources.
- Southern California Association of Governments-There were correspondences with SCAG regarding air quality and transportation, in addition to the MIS process.

- National Marine Fisheries Service-FHWA coordinated with NMFS pursuant to the NEPA/Section 404 Integration Process.
- California Air Resources Board-There was coordination with the Air Resources Board during the preparation of the air quality parameters.
- South Coast Air Quality Management District Board-There was coordination with AQMD during the preparation of the air quality parameters.

In addition to the meetings listed above, there have been meetings with each of the major land owners (Forster Ranch, Talega Valley, Marblehead Inland and Coastal, and Plaza Pacifica) regarding potential impacts to implementation of their projects.

11.6 PUBLIC AND AGENCY INVOLVEMENT FOR THE CURRENT EIS/SEIR

A Scoping Summary Report has been prepared and is available for review at the TCA. That report contains scoping related documents and correspondence that are referenced in this Section.

11.6.1 PUBLIC NOTIFICATION PROCESS

Three public scoping meetings for the SOCTIIP were held in Orange and San Diego Counties in March 2001. These meetings sought input from public agencies, members of the general public, stakeholders and other interested parties related to the SOCTIIP alternatives and the overall scope and content of the EIS/SEIR.

This Section specifically describes the following components of the scoping process for the SOCTIIP EIS/SEIR:

- The scoping meetings held in March 2001.
- The Notice of Preparation (NOP) of a Subsequent EIR under CEQA and responses received by the TCA on the NOP.
- The Notice of Intent (NOI) to prepare an EIS under NEPA and responses received by FHWA on the NOI.
- Information meetings held with several interested agencies and environmental groups.

Notification of the public scoping meetings was provided as follows:

- TCA "Get Involved with Foothill-South" flyer, a one page overview of the SOCTIIP alternatives and announcing the public scoping meetings, was mailed to approximately 1,200 recipients, including federal, state and local agencies and interested members of the public.
- The TCA Website (www.thetollroads.com) provided information on the dates and locations of the scoping meetings as well as providing an opportunity to submit comments on the project directly on the website.
- Newspaper advertisements/notices as follows:
  - *Orange County Register*, Monday, March 12, 2001
  - *Dana Point News*, Thursday, March 15 and 22, 2001
  - *Capistrano Valley News*, Thursday, March 15 and 22, 2001
  - *Canyon Life/Rancho Santa Margarita News*, Thursday, March 15 and Friday, March 23, 2001

- *Saddleback Valley News*, Friday, March 16 and 23, 2001
- *San Clemente Sun Post*, Friday, March 16 and Thursday, March 22, 2001
- *Oceanside – North County Times*, Monday, March 12 and Thursday, March 22, 2001

The dates of the scoping meetings were published in the Federal Register on Wednesday, March 14, 2001 (66 F.R. 10934). In addition, the TCA flyer and request to receive the Foothill South public notices was distributed to federal, state and local agencies and interested parties by United States Postal Services first class mail on March 16, 2001.

Copies of the TCA flyers, the newspaper publications and the first class mailing list are provided in Appendix A of the South Orange County Transportation Infrastructure Improvement Project Scoping Summary Report (P&D Consultants, 2003).

In addition to these public scoping meetings, additional meetings to solicit input from other agencies were conducted with the California Department of Parks, the National Marine Fisheries Service and several environmental groups, as described later in this Section.

11.6.2 SOCTIIP SCOPING MEETINGS

The scoping process allows the lead agency to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed in the EIS/SEIR and the methods by which those impacts will be evaluated. NEPA specifically requires the lead agency to consult with federal agencies that have jurisdiction by law or special expertise on a proposed action. The lead agency is also required to solicit appropriate information from the public during EIS preparation. CEQA encourages the use of scoping by the lead agency to ensure identification of issues that are of concern to responsible agencies and the general public and requires scoping under some circumstances.

Public scoping meetings for the SOCTIIP EIS/SEIR were held on the following dates and locations:

Monday, March 26, 2001
Christian Heritage Church
190 Avenida La Pata
City of San Clemente

Tuesday, March 27, 2001
Trabuco Mesa Elementary School
21301 Avenida De Las Flores
City of Rancho Santa Margarita

Thursday, March 29, 2001
Mission San Luis Rey
4070 Mission Avenue
City of Oceanside

The format of these scoping meetings was:

- Presentation by the TCA describing the proposed SOCTIIP alternatives and the environmental process.
- Public comments.
- Informal information at presentation boards provided at locations throughout the meeting space. Boards included the project alternatives, biological resources, water resources, traffic, air quality and noise.

- Provision of handouts describing the project alternatives and the environmental process. Copies of the handouts provided at the public scoping meetings are provided in Appendix B of the Scoping Summary Report.

11.6.2.1 Summary of Comments from the Scoping Meetings

Summary of the Scoping Meetings

Public comments were accepted in the following ways at the scoping meetings.

- Verbal comments following the formal presentation, with comments taken by a court reporter. Those verbal comments are provided in Appendices C, D and E, in the Scoping Summary Report for the 3/26/01, 3/27/01 and 3/29/01 scoping meetings, respectively. Those transcripts also include the presentations made by TCA staff prior to the public comment period at each meeting.
- Verbal comments at any time during the scoping meeting, with comments taken by a court reporter, in an area separate from the main meeting room. Those verbal comments are provided in Appendices F, G and H, in the Scoping Summary Report for the 3/26/01, 3/27/01 and 3/29/01 scoping meetings, respectively.
- Written comments at the scoping meeting, using either personal stationary or scoping meeting cards provided at the meeting. The written comments received at the scoping meetings are provided in Appendices I, J and K, in the Scoping Summary Report for the 3/26/01, 3/27/01 and 3/29/01 scoping meetings, respectively.
- Written comments submitted to the TCA after the scoping meetings. Copies of written comments received by the TCA after the public scoping meetings are provided in Appendix L in the Scoping Summary Report.
- Written comments on the TCA's website. Copies of these written comments are provided in Appendix M in the Scoping Summary Report.
- Written comments received by FHWA and transmitted to the TCA. These written comments are provided in Appendix N in the Scoping Summary Report.

Attendees at the three public scoping meetings were invited to, but were not required to, sign in as they entered the meeting facilities. The sign-in sheets for the 3/26/01, 3/27/01 and 3/29/01 public scoping meetings are provided in Appendices O, P and Q respectively in the Scoping Summary Report.

Summary of Comments Received At and After the Public Scoping Meetings

Approximately 400 comments were received during and after the public scoping meetings held in March 2001. An overview of the comments is provided in Table 11.6-1. The names and jurisdictions or association/agency represented of all persons who commented at the scoping meetings are provided in Table 11.6-2. Table 11.6-3 summarizes all the comments provided at those meetings and the Sections in this EIS/SEIR in which they are addressed. The comments are grouped by general topics such as project alternatives, traffic, biological resources and noise.

11.6.3 MEETINGS

As noted earlier, in addition to the three public scoping meetings, additional meetings to solicit input from other agencies were conducted with the California Department of Parks and Recreation, the National Marine

Fisheries Service (NMFS), the California Coastal Commission (CCC) and several environmental groups, as described below.

11.6.3.1 Meeting with the California Department of Parks and Recreation

A meeting was held at the TCA on June 4, 2001 to discuss the proposed SOCTIIP alternatives and the EIS/SEIR process with representatives from the California Department of Parks and Recreation. Attendees at this meeting included Mike Tope, Dave Pryor and Richard Rozzelle of the Department of Parks and Recreation; Macie Cleary-Milan and Peter Ciesla of the TCA; and Romi Archer and Christine Huard-Spencer of P&D Consultants, TCA's EIS/SEIR consultant. Issues they identified for consideration in the EIS/SEIR were connectivity of wildlife corridors to Cleveland National Forest; the impact of the take of a substantial part of the existing San Onofre State Beach (Park); impacts to protected species such as the arroyo toad; visual impacts on the Park; relationship of the Park to the San Onofre Nuclear Generation Station (SONGS) and mitigation for previous impacts associated with the SONGS. Other discussion focused on access permits for TCA and consultant staff to conduct geotechnical testing and other technical studies in support of the SOCTIIP engineering and environmental studies.

11.6.3.2 Meeting with the California Department of Fish and Game

A meeting was held at TCA on June 26, 2001, with representatives from the California Department of Fish and Game (CDFG) to discuss the proposed SOCTIIP alternatives and the biological resource evaluations to be performed for the project. Attendees included Warren Wong, Laura Crumm and Pam Beare from CDFG; Macie Cleary-Milan and Pete Ciesla from the TCA; Betty Dehoney of P&D Consultants and Tony Bomkamp of Glenn Lukos Associates, TCA's wetlands consultant. Macie provided an overview of the history of the project and the project description. Betty explained the approach for the biological resources evaluation and Tony discussed the wetlands evaluation. CDFG staff requested to be kept informed of future environmental document releases.

11.6.3.3 Meeting with the National Marine Fisheries Service

On September 17, 2001, the TCA and its consultants met with a representative from NMFS to solicit that agency's input on the project and the anticipated technical studies. Attendees at this meeting were Rick Rogers of NMFS; Macie Cleary-Milan, Scott Bacsikin and Peter Ciesla of the TCA; Betty Dehoney of P&D Consultants; and Tony Bomkamp of Glenn Lukos Associates. The meeting included the following:

- A short description of the responsibilities and mission of the TCA, an overview of the SOCTIIP alternatives, prior environmental studies and historical perspective on the project.
- An overview of the technical studies being prepared for the Natural Environment Study Technical Report was provided documenting the existing conditions in the study area related to plant communities, jurisdictional delineations, focused plant surveys, invertebrates, fish, herptiles, birds and mammals. In general, the discussion focused on fish species.
- Description of engineering and mitigation actions to avoid or reduce impacts on fish species, including bridging San Mateo and San Juan Creeks, placement of minimal structures in drainages, and implementation of best management practices during and after construction.
- NMFS indicated that their interests would focus on the anadromous south coast steelhead, a federally endangered fish species. NMFS indicated that they would require details regarding the distribution of this species, data on tributaries related to physical impediments to migration, and construction and post-construction measures to ascertain adequately the effects of the project on this species.

11.6.3.4 Meeting with the California Coastal Commission

A meeting was held by the TCA on October 16, 2001 to discuss the SOCTIIP alternatives and the EIS/SEIR process with representatives of the CCC. Attendees at the meeting were Mr. Chris Flynn, CCC; Angela Vasconcellos and Smita Deshpande, Caltrans District 12; Macie Cleary-Milan, Pete Ciesla and Scott Bacsikin, TCA; Tony Bomkamp, Glenn Lukos Associates; and Romi Archer, P&D Consultants. Also participating in this meeting, by conference call, were Teresa Henry, CCC Long Beach office; Sherilyn Sarb, CCC San Francisco office; and Larry Simon, CCC, Federal Consistency Unit, San Francisco office.

The TCA confirmed that all alternatives will be evaluated at an equal level of detail in the EIS/SEIR. Mr. Simon described the requirements for the Consistency process. Because the project has a federal nexus, the Federal Coastal Zone Consistency process and the need for a Coastal Development Permit (CDP) will be triggered if an alternative in the coastal zone is selected for implementation. The TCA would be the lead agency on the consistency submittal to the CCC. Issues that generally need to be evaluated in a consistency submittal include impacts to wetlands, creeks, water quality and recreation, and impacts on species such as the steelhead trout and tidewater goby. Mr. Simon noted that the San Mateo Campground was mitigation for the parking lot expansion at the San Onofre Nuclear Generating Station and that this would need to be addressed in the consistency submittal for alternatives which impact the Campground.

Submittal of a CDP would be through the CCC San Diego office because the majority of the study area in the coastal zone is in San Diego County. The timing for the CDP would be concurrent with the Consistency process.

11.6.3.5 Meeting with Environmental Groups

On September 24, 2001, the TCA held a meeting with environmental groups to solicit their input on the EIS/SEIR and the supporting technical studies. The meeting was held at 7:00 PM at the Dana Point City Hall office. Attendees were Andrew Wetzler, Natural Resources Defense Council; Dan Silver, Endangered Habitats League; Pete DiSimone, Audubon Society; Don Knuze, San Members; Wally Kreutzen, James Brown and Macie Cleary-Milan, TCA, and Rob Thornton, TCA Legal Counsel.

The TCA called this meeting to ensure that any additional input from environmental organizations is obtained and considered in the environmental analysis of the SOCTIIP alternatives. The environmental group representatives expressed concerns on the traffic modeling and assumptions; analysis of impacts to open space resources; the project's potential to create growth inducing impacts; and consideration of other cumulative projects in the analysis. The TCA was asked to ensure that (1) they identify a solution to water filtration systems from the road runoff, (2) that any impacts arising from the TCA/Caltrans non-compete agreement be identified and (3) that the analysis not focus solely on building the toll road. The non-compete agreement is contained in Section 2.1.6 of the May 13, 1993 Cooperative Agreement between the TCA and Caltrans for the Foothill Transportation Corridor.

11.6.4 PURPOSE OF THE NOTICE OF PREPARATION

The Notice of Preparation is a required notice under the California Environmental Quality Act (CEQA) to inform public agencies and persons requesting notice that an agency will be preparing an Environmental Impact Report (EIR). The purpose of the NOP is to solicit input on issues that should be addressed in the EIR, consistent with Section 15082 of the CEQA Guidelines. The NOP for the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) Subsequent EIR included a description of the SOCTIIP alternatives and a preliminary evaluation of the potential environmental impacts of the SOCTIIP alternatives. A copy of the NOP is provided in Appendix R of the Scoping Summary Report.

11.6.4.1 Distribution of the Notice of Preparation

The TCA issued the NOP for the SOCTIIP SEIR in June 2001. The NOP was distributed on June 7, 2001 by certified mail to a total of 4,055 agencies, property owners, members of the general public, groups and organizations and other potentially interested parties. It was posted with the Orange County Clerk's office on June 7, 2001 and on June 8, 2001 with the San Diego County Clerk. Agencies receiving the NOP included federal, state and local agencies, Orange County and cities in Orange County. Other recipients included the interested party list developed by the TCA in 1994, the Settlement Agreement parties, homeowner organizations in south Orange County, all persons who attended the March 2001 public scoping meetings and who completed either the sign-in form or submitted written comments at or after the scoping meetings, and property owners along the alignments of the build Alternatives. The distribution list for the NOP is on file in the Environmental and Planning Department at the TCA.

The NOP was distributed on June 7, 2001 by certified mail to property owners and agencies in proximity to all the alignments of the build Alternatives. Because there was potential that recipients along I-5 might not have been fully aware of the SOCTIIP because the I-5 was a new alternative, a separate cover letter was provided in the NOP package for those recipients. A copy of that letter is included at the end of Appendix R of the Scoping Summary Report.

11.6.4.2 Summary of Comments in Response to the Notice of Preparation

Table 11.6-4 provides a summary of the comments received by the TCA from agencies in response to the NOP. A total of 25 agencies, nine groups and organizations and 58 members of the general public provided written NOP comments. All copies of the written comments received in response to the NOP are provided in Appendix S in the Scoping Summary Report. The names and jurisdictions of groups, organizations and members of the general public who commented on the NOP are provided in Table 11.6-5. Table 11.6-6 summarizes all the comments provided by those parties in response to the NOP and the Sections in this EIS/SEIR in which they are addressed. The comments are grouped by general topics such as project alternatives, traffic, biological resources and noise.

11.6.5 PURPOSE OF THE NOTICE OF INTENT

The purpose of a Notice of Intent (NOI) under the National Environmental Policy Act (NEPA) is to provide notification that a federal agency will be preparing an Environmental Impact Statement (EIS). The NOI specifically solicits the input of federal agencies and others on issues that should be addressed in the EIS.

11.6.5.1 Publication of the Notice of Intent

FHWA originally published a NOI for the Foothill Transportation Corridor- South EIS/SEIR in the Federal Register on June 4, 1986 (51 F.R. 20398) and again on December 16, 1993. FHWA published a Revised NOI on February 20, 2001 in the Federal Register (66 F.R. 10934) which notified federal agencies that an EIS will be prepared for a proposed transportation improvement in south Orange County and northern San Diego County. The February 2001 NOI described the proposed SOCTIIP alternatives and described the history of the project related to the earlier NEPA and CEQA notices and studies.

FHWA published a Supplemental NOI in the Federal Register on March 14, 2001 (66 F.R. 10934) to inform federal agencies of the dates, times and locations of the three scoping meetings in March 2001. Copies of the Revised and Supplemental NOIs are on file and available for review at TCA offices.

11.6.5.2 Summary of Comments in Response to the Notice of Intent

Written comments on the NOIs were received from two federal agencies and three environmental groups. Copies of these comment letters are provided in Appendix U in the Scoping Summary Report. These comments are summarized in Table 11.6-7.

11.7 NATIVE AMERICAN CONSULTATION

Native American consultation for the SOCTIIP Project has been on-going since 2003. Prior to that time, some limited consultation was conducted for design alternatives considered for extending SR-241. Several federal and state statutes require good faith consultation with American Indian tribal groups (also known as Native American groups). The regulations promulgating Section 106 of the National Historic Preservation Act found in 36 CFR Part 800.2 (c)(2) require consultation on historic properties of significance to Indian tribes. Further, the Policy statement of the Advisory Council on Historic Preservation (June 11, 1993) addresses "Consultation with Native Americans Concerning Properties of Traditional Religion and Cultural Importance." Both the regulations of the Department of Defense (DOD) and the FHWA require ongoing, good-faith consultation with tribal groups for all projects where Section 106 applies. Caltrans also has stated policies on Native American consultation. The following briefly relates the current status of Native American consultation efforts completed for the SOCTIIP project.

Initial Government-to-Government Consultation. Two federal entities (FHWA and DOD) and one state agency (Caltrans) have jurisdiction over cultural resource issues associated with the SOCTIIP. Initially, the California Native American Heritage Commission (NAHC) was contacted to conduct a search of its Sacred Lands Files for sensitive cultural resources near the SOCTIIP alternatives and to provide a comprehensive list of Native American groups having traditional associations with the project area. The NAHC identified a sacred site (an ethnographic village called *Panhe*), described previously, specifically identified as CA-ORA-22 and CA-SDI-8435. These sites are components of the SMAD, which is made up of additional San Diego sites within Camp Pendleton.

The NAHC list of Native Americans was compared and combined with the Native American consultation list maintained by MCB Camp Pendleton. A letter initiating formal consultation was developed. For groups that have worked extensively with MCB Camp Pendleton in San Diego County, the letter was sent on Marine Corps letterhead. For all other tribal groups, the letters were sent by Caltrans, District 12. Letters were sent to all tribal groups in November 2003, and groups were called during December 2003. No specific comments were received from these follow-up telephone conversations. On January 16, 2004, after the comment period specified in the letter and telephone calls was over, a letter was received from the Juaneño Band of Mission Indians (Sonia Johnston, Tribal Chair) expressing deep concerns about potential impacts to Panhe from various SOCTIIP Alternatives.

Prior to this initial formal consultation, the TCA consultant for cultural resources, LSA, discussed the various alternatives of the SOCTIIP extensively with the California Cultural Resource Preservation Alliance, the three Juaneño bands (Sonia Johnston, Damien Shilo, and David Belardes as Tribal Chair of each group), and the Sierra Club's Sacred Lands Task Force (Rebecca Robles). These informal discussions provided quarterly updates on the progress of the project and the status of the initial Section 106 identification efforts for the project.

SOCTIIP Draft EIR/SEIR. The SOCTIIP Draft EIS/SEIR was circulated for public review on May 7, 2004. The CCRPA, local Native American groups, professional archaeologists, and the Sacred Sites Task Force were notified of the availability of the document and were directed to web-based and physical locations where they could review the project environmental documents and also register comments

concerning the documents. During the public review process, a public meeting was also held to solicit verbal comments on the document. During the review period, comments that concerned cultural resources were received from the Sacred Sites Task Force, Damien Shilo's Juaneño Band of Mission Indians, Sonia Johnston's Juaneño Band of Mission Indians, California Cultural Resources Preservation Alliance (CCRPA), San Diego County Archaeological Society, and the State Department of Parks and Recreation. Comments essentially were very parallel and focused primarily on potential impacts to *Panhe*.

On-Site Field Meeting. On August 19, 2004, an on-site field meeting was hosted by MCB Camp Pendleton archaeologist Stan Berryman to tour the SMAD. Members of the CCRPA, Damien Shilo's Juaneño Band of Mission Indians, and the Sacred Sites Task Force attended the field meeting along with the TCA consultant, LSA. The participants toured the SMAD.

Native American Consultation Meetings. On June 23, 2005, and June 24, 2005, meetings were hosted by the TCA, FHWA and Caltrans for the tribal groups contacted through the consultation process. Meetings were attended by representatives of four Native American groups and the State Parks Archaeologist, Michael Sampson. Presentations were made on both days discussing the current status of the project and describing potential project impacts to cultural resources.

Native American Heritage Commission Meetings. The Native American Heritage Commission is a State Commission established to "provide protection to Native American burials from vandalism and inadvert destruction, provide a procedure for the notification of most likely descendants regarding the discovery of Native American human remains and associated grave goods, bring legal action to prevent severe and irreparable damage to sacred shrines, ceremonial sites, sanctified cemeteries and place of worship on public property, and maintain an inventory of sacred places" (NAHC Mission Statement, 2005, http://ceres.ca.gov/nahc/sp.html#Mission%20Statement). Rebecca Robles (Juaneño, CCRPA member, and Sacred Sites Task Force member) contacted the NAHC and requested review of the SOCTIIP as allowed under California Public Resources Code §5097.97. This Code Section allows the NAHC to conduct an investigation as to the effect of the proposed action; conduct public hearings on the issue; make mitigation recommendations for consideration by the public agency proposing to take such actions; and, "if the public agency fails to accept the mitigation measures, and the Commission finds the proposed action would do severe and irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, the Commission may ask the Attorney General to take appropriate legal action pursuant to subdivision (g) of Section 5097.94" (California Public Resources Code §5097.97).

On June 30, 2005, the NAHC held a regularly scheduled meeting in Sacramento. The Commission was unable to form a quorum, and so acted as a committee of the NAHC making advisory recommendations to the full Commission. TCA cultural resource consultant (LSA) and TCA legal counsel (Nossaman, Guthner, Knox & Elliott, LLP) made a presentation to the NAHC concerning the project, and Ms. Robles addressed the Commission in opposition to the project. The Commission Committee directed the Commission staff (Rob Wood) to initiate an investigation into the SOCTIIP to determine whether the NAHC had jurisdiction over the project and, if so, to further identify potential significant impacts to Native American Sacred Sites. On September 13, 2005, the NAHC met for a regularly scheduled meeting in the City of Visalia. They were able to seat a quorum, and approved the recommendations of previous meetings where the Commission Attendees acted as a Committee.

Continuing Native American Consultation Activities. Consultation will continue throughout all subsequent phases of the Section 106 Compliance process. The following list presents the minimum level of future consultation efforts.

- During late-2005/early-2006, an on-site tour of the SOCTIIP project area will be offered to interested parties identified through the previous consultation.
- Consultation with interested parties will take place prior to and throughout evaluation of identified archaeological sites within the SOCTIIP.
- Native American monitoring of evaluation excavation efforts will be required.
- Participation in the development of, and invitation to participate in, the project Memorandum of Agreement for cultural resource mitigation measures.
- Native American monitoring of any further mitigation excavations.
- Native American monitoring during ground-disturbing construction activities in sediments with the potential to contain prehistoric cultural resources.

Throughout the consultation process, if interested parties request additional meetings, every attempt will be made to accommodate those requests to continue a good-faith consultation process. Federally recognized and non-federally recognized Native American groups will be treated the same throughout the consultation process.

11.8 NOTIFICATION OF AVAILABILITY OF THE DRAFT EIS/SEIR

The FHWA and the TCA prepared and circulated the Draft EIS/SEIR for the proposed project. Specifically, the Draft EIS/SEIR assessed the potential environmental impacts associated with the Alternatives to provide congestion relief in south Orange County, including alternatives to extend the existing Foothill Transportation Corridor (FTC), improve arterials, and widen Interstate 5 (I-5).

The Draft EIS/SEIR was circulated for public review from May 7, 2004, to August 6, 2004. Documents were distributed to agencies, institutions, political representatives, community groups and interested parties. In response to requests from federal and local agencies, the FHWA and the TCA extended the public review period to 92 days, which is more than twice the minimum review period of 45 days.

Public notification of the availability of the Draft EIS/SEIR was made in the following ways:

- The Draft EIS/SEIR was distributed in hard copy and/or electronically on a compact disc (CD) to the distribution list provided in Appendix A.
- The Notice of Availability (NOA) was published in The Orange County Register on May 7, 2004. Additional newspaper notices were published in The Orange County Register on June 10, 11, 17 and 18, 2004. In addition, the NOA was published in the following local papers: Capistrano Valley (June 17, 2004), Canyon Life/Rancho Santa Margarita New (June 18, 2004), Dana Point News (June 17, 2004), Ladera Post (June 18, 2004), Leisure World News (June 17, 2004), San Clemente Sun Post (June 10 and 12, 2004), and the Saddleback Valley News (June 18, 2004). Copies of the newspaper notices are provided in Appendix A.
- The NOA was distributed to approximately 9,300 addresses in south Orange County. A copy of the NOA is provided in Appendix A.
- The NOA was published on the TCA website (www.thetollroads.com).
- The Draft EIS/SEIR was available on the TCA website.
- The Draft EIS/SEIR was available for public review at the following locations: TCA office, San Clemente Information Center, Caltrans District 12 office, and nine area libraries. For the addresses of these locations please refer to Appendix A.

- The NOA was published in the Federal Register (Volume 69, No. 89, May 7, 2004, page 25575). A copy of The Federal Register indicating availability of the Draft EIS/SEIR is provided in Appendix A.
- After the release of the Draft EIS/SEIR and the publication and distribution of the NOA, the TCA extended the public review period from the original date of July 7, 2004, to August 6, 2004. All parties who received the Draft EIS/SEIR or NOA were notified of the extended public review period; those distribution lists are provided in Appendix A. Copies of the letters extending the public review period are provided in Appendix A.
- A public meeting was held to solicit comments on the Draft EIS/SEIR. The meeting was held at Tesoro High School on June 19, 2004. The public was notified of this public hearing in the newspaper notices of the availability of the Draft EIS/SEIR in Appendix A and in a separate notice of public hearing published on June 10, 11, 17 and 18, 2004, in The Orange County Register and local area papers. Copies of the notice of public hearing are provided in Appendix A.
- The TCA website provided information on the dates of the public review period, including the extension; the public hearing on June 19, 2004, how to submit written or electronic comments, and where the Draft EIS/SEIR was available for review or purchase.

11.9 COMMENTS RECEIVED ON THE DRAFT EIS/SEIR

Comments on the Draft EIS/SEIR were received from federal, state and local agencies, organizations, interested parties, and private citizens, as listed below in Section 1.3. The following options were provided for submitting comments on the project and/or the Draft EIS/SEIR:

- Written comments could be mailed to the TCA or the FHWA by the end of the public review period on August 6, 2004.
- Written comments could be provided electronically on forms provided on the TCA website.
- Written comments could be submitted on comment forms provided by the TCA at the TCA offices and at the San Clemente Information Center. In addition, comment cards were provided to attendees at the June 19, 2004, public meeting. Comment cards could be given to any TCA staff person at the TCA office, the San Clemente Information Center or at the public meeting. Alternatively, the comment cards could be mailed directly to the TCA.
- Verbal comments could be provided to court reporters at the June 19, 2004, public meeting. All verbal comments received at the June 19, 2004, public meeting were transcribed.

11.10 RESPONSE TO COMMENTS

Over 7,000 comments were received during the public review period. Responses are provided in the Response to Comments document. All comment letters or transcribed public hearing comments received during the public review period for the Draft EIS/SEIR are organized into the following categories (shown below). Specific agencies that provided comments are named beneath each heading.

Federal Agencies

F1	United States Department of Homeland Security, Federal Emergency Management Agency	May 27, 2004
F2	United States Marine Corps	July 28, 2004
F3	United States Department of Commerce, National Oceanic and Atmospheric Administration	August 6, 2004

F4	Department of the Army, Los Angeles District, Corps of Engineers	August 6, 2004
F5	United States Environmental Protection Agency	August 11, 2004
F6	United States Department of the Interior	September 9, 2004

State Agencies

S1	State of California, Department of Conservation	June 24, 2004
S2	State of California, The Resources Agency, Department of Conservation, Division of Land Resources Protection	July 2, 2004
S3	State of California, The Resources Agency, California Coastal Commission	July 30, 2004
S4	State of California, Department of Justice	August 4, 2004
S5	State of California, The Resources Agency, Department of Parks and Recreation	August 2, 2004
S6	State of California, The Resources Agency, Department of Fish and Game	August 6, 2004
S7	State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit	August 9, 2004

Regional Agencies

R1	John Wayne Airport	June 10, 2004
R2	Metrolink, Southern California Regional Rail Authority	June 30, 2004
R3	Southern California Association of Governments	August 5, 2004
R4	County of Orange Resources and Development Management Department	August 6, 2004

Local Agencies

L1	City of La Habra	May 28, 2004
L2	City of Anaheim	June 2, 2004
L3	City of Irvine	July 26, 2004
L4	City of Lake Forest	August 6, 2004
L5	City of Mission Viejo	August 3, 2004
L6	City of Tustin	August 5, 2004
L7	City of San Clemente	no date
L8	City of Rancho Santa Margarita	August 5, 2004
L9	City of San Juan Capistrano	August 6, 2004

Utilities and Service Providers

U1	Orange County Fire Authority	June 4, 2004
U2	Capistrano Unified School District	August 6, 2004

Businesses, Groups, and Organizations

O1	OCTax	June 19, 2004
O2	Sandwich Buddies	June 22, 2004
O3	Yacoel Properties	June 23 2004

O4	Marblehead Community Association	June 29, 2004
O5	Broadmoor San Clemente Community Association	July 6, 2004
O6	The Donna O'Neill Land Conservancy	July 20, 2004
O7	San Diego County Archaeological Society	July 17, 2004
O8	Coastal Postal	July 26, 2004
O9	Fairview Mortgage Capital, Inc.	July 26, 2004
O10	Fairview Mortgage Capital, Inc.	July 26, 2004
O11	Talega Maintenance Corporation	August 2, 2004
O12	Raekei Imaging	June 21, 2004
O13	MiOcean	July 30, 2004
O14	San Clemente Chamber of Commerce	July 8, 2004
O15	Building Industry Association of Southern California	August 5, 2004
O16	Orange County Business Council	August 4, 2004
O17	Sierra Club, Orange County Native American Sacred Sites Task Force	August 5, 2004
O18	California Cultural Resource Preservation Alliance, Inc.	August 4, 2004
O19	Terrell Watt Planning Consultants	August 6, 2004
O20	Surfrider Foundation	no date
O20A	Surfrider Foundation	no date
O21	Shute, Mihaly & Weinberger LLP	August 5, 2004
O22	Rancho Mission Viejo	August 6, 2004
O23	Tustin Chamber of Commerce	August 4, 2004
O24	The Donna O'Neill Land Conservancy	August 5, 2004
O25	California State Parks Foundation	August 5, 2004
O26	Juañeno Band of Mission Indians Acjachemen Nation	August 6, 2004
O27	National Association of Industrial and Office Properties	August 6, 2004
O28	Automobile Club of Southern California	August 6, 2004
O29	Hills for Everyone	June 19, 2004

Individuals

Over 200 comment letters were received from the general public on the Draft EIS/SEIR for the proposed project, including several form letters. These comment letters are responded to in Chapter 4.0 of the Response to Comments document. Please refer to Responses to Comments P1 through P277.

Public Hearing (June 19, 2004)

Testimony was received from 198 people who attended the Public Hearing held on June 19, 2004. A number of common issues were raised in the testimony. These comments are discussed below and general responses are provided to the issues that were raised. For additional information please refer to Chapter 4.0 of the Response to Comments document.

Comment Cards, Petitions, and E-mail

TCA received 6,183 comment cards/petitions and 375 e-mail comments regarding the proposed project. A number of issues were commonly raised in these letters. These comments are discussed below and general responses are provided to the issues that were raised. For additional information please refer to Chapter 4.0 of the Response to Comments document.

11.11 SIGNIFICANT COMMENTS ON THE DRAFT EIS/SEIR

A summary of comments on the Draft EIS/SEIR is provided below. It should be noted that the comments summarized below do not reflect all of the comments received during the public review period. As previously mentioned, over 7,000 comments were received from federal, state, regional and local agencies, organizations, utility and service providers and the general public. The following summary reflects the significant concerns or issues regarding the proposed project that were raised during the public review process.

Federal and State Agencies

Some of the most significant comments on the Draft EIS/SEIR came from federal resource agencies, including the U.S. Environmental Protection Agency (EPA) and the Army Corps of Engineers (ACOE). These comments are largely directed at the natural resources and air quality impacts of the project and the integration of the EIS/EIR process with the Section 404 permitting process.

The federal agencies expressed concern about the following three primary issues: (1) adherence to the procedures outlined in the NEPA-404 Memorandum of Understanding (MOU), (2) impacts to wetlands and waters of the United States and use of a planning level delineation of waters of the United States in the Draft EIS/SEIR, and (3) coordination between the Rancho Mission Viejo (RMV) Ranch Plan and the TCA and FHWA planning efforts for SOCTIIP.

As part of the Final EIS/SEIR, the TCA and the FHWA have identified a Preferred Alternative. The next phase in the NEPA-404 MOU process is the identification of the final least environmentally damaging practicable Alternative (LEDPA), as defined by the Section 404(b) (1) Guidelines. The FHWA and the TCA, in conjuction with the USFWS, ACOE, the EPA, Caltrans, and Marine Corps Base (MCB) Camp Pendleton are continuing the collaborative process to implement the NEPA-404 MOU. A planning-level delineation of waters of the United States was used in the Draft EIS/SEIR to measure project-related impacts to aquatic resources from the alternative alignments. While this planning-level delineation provides a relative measure of the acreage of impacts to water resources, the TCA and the FHWA acknowledge that a project-level delineation would be needed to determine the LEDPA. More detailed identification of aquatic resources and their acreages are provided in Section 4 of the Wetlands Delineation Technical Report (Glenn Lukos Associates [GLA] 2004) included as Attachment 12 to the Response to Comments document. This report was prepared in accordance with the recommendation of the ACOE and verified by the ACOE prior to inclusion in the document.

The proposed RMV Ranch Plan (Ranch Plan) was adopted and the Final EIR for the Ranch Plan certified by the County of Orange in November 2004, after publication of the SOCTIIP Draft EIS/SEIR. The Ranch Plan depicts an alignment of the Foothill Transportation Corridor South (FTC-S) as shown on the Master Plan of Arterial Highways (MPAH), but RMV acknowledges that if another alignment is selected as the Preferred Alternative, their development plan will need to accommodate the change. Subsequent to County approval of the Ranch Plan, RMV and the County of Orange entered into a Settlement Agreement with the Endangered Habitats League, Natural Resources Defense Council, Sea and Sage Audubon Society, Laguna Greenbelt, Inc., and the Sierra Club. This Agreement did not change the total number of dwelling units or nonresidential development for the Ranch Plan, but did change the location of development and increase the amount of devoted open space. The availability of the approved Ranch Plan and Ranch Plan Settlement Agreement provides an opportunity for coordinated planning and plan refinements between the two projects. For example, once the Foothill/Eastern TCA Board adopts the Preferred Alternative, the alignment will be set so that as specific develoment site plans, Area Plans and subdivision maps are prepared for the Ranch Plan, development can be placed in a location within the development bubbles outside of the SOCTIIP Preferred Alternative. Likewise, with the availability of the

Ranch Plan EIR and subsequent Ranch Plan Settlement Agreement, the TCA has been able to make refinements to the Preferred Alternative to adjust the location of the alignment through Planning Area 2 in order to allow for the consolidation of the development area, and modify the Cow Camp Road interchange design from a full diamond to folded diamond design to be consistent with the Arterial Plan in the approved Ranch Plan.

In addition to letters from federal resource agencies, comment letters were also received from state agencies. Some of the letters focused on potential impacts to San Onofre State Beach (SOSB), consistency with the California Coastal Act (CCA), and potential impacts to agricultural resources. For example, comments from the California Department of Justice and the California Department of Parks and Recreation (CDPR) focused on clarifying the relationship between MCB Camp Pendleton, the Department of the Navy (DON) and the CDPR. The California Coastal Commission expressed concern regarding the consistency of the proposed project with the CCA. The California Department of Conservation (CDC) submitted comments related to impacts to agricultural resources that may be affected by one or more of the SOCTIIP Alternatives. The California Department of Fish and Game (CDFG) submitted substantial comments regarding impacts to biological resources. Other agency comments required clarification of information in the Draft EIS/SEIR or provided information for consideration by decision makers. For information on specific comments, please refer to the Response to Comments document, Sections 3.0 and 4.0.

Regional Agencies and Local Agencies

Many of the comments submitted by local agencies, including area cities, related to traffic analysis and possible impacts to local circulation networks. The City of Irvine, for example, requested the identification and mitigation of impact to Alton and Bake Parkways between I-5 and FTC. An evaluation was made of the differences in traffic volumes on the countywide highway system in relation to the different SOCTIIP Alternatives (e.g., build Alternatives versus the No Action Alternative). The changes to traffic levels on Alton Parkway and Bake Parkway between I-5 and SR-241 were below the level of significance threshold applied in the traffic analysis. In addition, several cities including Lake Forest, Mission Viejo and Laguna Hills, articulated their opposition to the I-5 Widening Alternative because it would displace a large number of homes and businesses and result in significant adverse socioeconomic and environmental justice impacts. The City of San Clemente expressed opposition to any Alternative that would traverse the City of San Clemente and/or does not provide a direct connection to the existing I-5 Freeway. Opposition to the Arterial Improvements Only Alternative was also expressed by some local agencies. The County of Orange submitted comments related to drainage and floodplain encroachment, open space and recreation, noise, aesthetics, cultural resources, transportation, waste manangement, including potential impacts to the Prima Deshecha Sanitary Landfill and water quality. For information on specific comments, please refer to the Response to Comments document, Sections 3.0 and 4.0.

Utility and Service Providers

The Orange County Fire Authority (OCFA) and the Capistrano Unified School District (CUSD) submitted comments during the public review period. OCFA stated that no additional public safety resources are needed as a result of this project, and that all standard conditions and guidelines will be applied to the project during the normal review process. CUSD also requested early coordination with the TCA to identify and implement noise control measures with the least disruption of the educational environment. The TCA and the FHWA revised several portions of the Draft EIS/SEIR to update, correct and clarify information related to CUSD facilities and the consultation process. For information on specific comments, please refer to the Response to Comments document, Sections 3.0 and 4.0.

Businesses, Groups and Organizations

Many businesses, groups and organizations expressed opinions about the Alternatives considered in the Draft EIS/SEIR and about toll roads in general. These opinions will be provided to the decision makers for their consideration. In addition to many of the issues raised by federal, state and local agencies, letters received from businesses, groups and organizations on the environmental analysis in the Draft EIR/SEIR included comments on the San Mateo Archaeological District, water quality features included in the project or required as mitigation, potential impacts to SOSB and Trestles Beach and potential impacts to residential and commercial areas located adjacent to SOCTIIP Alternatives. For information on specific comments, please refer to the Response to Comments document.

Individuals, Comment Cards, Petitions, Public Hearings and E-mail

A number of issues were raised frequently in letters from members of the public. These comments are addressed in the Response to Comments document in Comment and Response/Question and Answer format, which discusses the issue thoroughly and directs the reader to portions of the Draft EIS/SEIR that provide additional information.

11.12 PREFERRED ALTERNATIVE

After full consideration of the comments received on the Draft EIS/SEIR and coordination with local, state and federal agencies, a Preferred Alternative for the FTC-S corridor was identified. The A7-FEC-M-Initial Alternative that was analyzed in the Draft EIS/SEIR has been refined since circulation of the document in order to minimize environmental impacts and address engineering requirements. The A7-FEC-M-Initial with the design refinements is known as the "Preferred Alternative."

The SOCTIIP Draft EIS/SEIR was prepared in compliance with the requirements of CEQA and NEPA and in a manner consistent with the NEPA/Section 404 MOU. The NEPA/Section 404 MOU provides for federal resource agency coordination in identifying the project Purpose and Need, selecting the Alternatives for evaluation, and selecting the Preferred Alternative. The federal agencies participating in the integrated NEPA/Section 404 process for SOCTIIP are the FHWA, Caltrans, EPA, USFWS, ACOE and MCB Camp Pendleton. The Alternatives evaluated in the technical reports and in the Draft EIS/SEIR have undergone rigorous evaluation and review by the transportation and resource agencies. The environmental evaluation undertaken for the SOCTIIP project informs decision makers so that they can identify a Project Alternative that will have the least adverse effects of the environment.

Source: Robert Bein, William Frost & Associates, 1986

1986 Alternatives Analysis Scoping Alternatives

Table 11.6-1
Overview of Comments from the Public Scoping Meetings

Comments at the 3/26/01 Public Scoping Meeting	
Number of commentors (verbal) at meeting.	38
Number of verbal comments to court reporter.	51
Number of comment cards.	137
Major issues included impacts related to open space, urban sprawl, runoff, water quality, endangered and threatened species, wildlife corridors, San Onofre State Park, traffic, San Mateo Campground, growth inducement, noise, beaches, quality of life, air quality, Trestles beach, surfing, San Mateo Creek, wetlands; habitat; objectivity of the study and the non-compete clause. There was also concern expressed that the attendees were not allowed, at the request of the property owner, to display poster exhibits in the building at the meeting.	
Comments at the 3/27 Public Scoping Meeting	
Number of commentors (verbal) at meeting.	5
Number of verbal comments to court reporter.	2
Number of comment cards.	32
Major issues included impacts related to construction, runoff, habitat, ocean, water quality, traffic, noise, air quality, wildlife and objectivity of study.	
Comments at the 3/29 Public Scoping Meeting	
Number of commentors (verbal) at meeting.	27
Number of verbal comments to court reporter	1
Number of comment cards.	5
Major issues included impacts related to open space, urban sprawl, runoff, water quality, endangered species, wildlife, San Onofre State Park, traffic, growth inducement, noise, beaches, quality of life, air quality, Trestles, surfing, San Mateo Creek, wetlands, habitat and objectivity of the study.	
Mailed Comments	
Number of comments.	51
Major issues included impacts related to wildlife, traffic, air quality, runoff, beaches, San Onofre State Park, urban sprawl, habitat, endangered species and San Mateo Creek.	
Website Comments	
Number of comments.	29
Major issues included impacts related to open space, urban sprawl, runoff, water quality, endangered species, wildlife, San Onofre State Park, traffic, growth, noise, beaches, quality of life, air quality, Trestles, surfing, San Mateo Creek and Campground, wetlands, habitat and objectivity of the study.	
Letters to FHWA	
Number of letters.	125
Major issues included impacts related to open space, urban sprawl, runoff, water quality, endangered species, wildlife, San Onofre State Park, traffic, growth, noise, beaches, quality of life, air quality, Trestles, surfing, San Mateo Creek and Campground, public health and safety, objectivity of the study, wetlands and habitat.	

Table 11.6-2
List of all Persons Who Commented at the Public Scoping Meetings

Eddie Rose (no address given).	Lacy Robert (no address given).	Stephanie Dory, San Clemente City Council
Julia Belize, San Clemente	Ken Nielsen, San Clemente	Annette Stoner, San Clemente
Andrew Wetzler, Natural Resource Defense Council	Eleanore Henry, Laguna Beach	Walter Holland (no address given).
Karen Phelps, Dana Point	Sandra Noble, San Clemente	Jim Hill, San Clemente
Brad Malbin, San Clemente	Wayne Eggleston, Member San Clemente City Council	Hal Forsen, San Clemente
Don Hagster, Fullerton	Gary Hesner (no address given).	Jerry Collamer, San Clemente
Blake Story, Laguna Niguel	Jeff Harris, San Clemente	Jenna Sufset, San Clemente
Bill Wineford, San Clemente	Anne Morgan, Westminster	Christopher Coons, Orange
Dee Brady, (name of organization inaudible) local resident	Maura Macula, Capistrano Beach	Greg Kosh, Anaheim
Steve Netherby, San Clemente	Ms. Mauzey, Laguna Niguel	Clair Schlotterbeck, north Orange County, President of Hill for Everyone
Laura Cohen, Mission Viejo Land Conservancy	Patty Meadd, California resident	Justin McCarthy, San Clemente
Dave Throman, Chair of the South Orange County Group	Campbell Seach, San Clemente	Jenny Leach, student UC Santa Cruz
Paul Arms, Huntington Beach	Mark (inaudible)	David Semrau, Dove Canyon
Gary Thompson, member Rancho Santa Margarita City Council	Matthew Ichinose, San Juan Capistrano	Ian Tacquard (no address given).
Matt Taylor, Rancho Santa Margarita	Rick Andabazo, San Diego County	Jeff Purdy, San Clemente
Mary Clarke, San Diego Sierra Club	Michael Salen, San Clemente	Karen Phelps, Dana Point
Kevin Walnut, San Diego	Don Warkomski, Lucadia	Karl Warkomski, member Aliso Viejo City Council
Guy Pezerello, San Clemente	Jim Corker, Oceanside	Patrick Shebrocky, San Diego
Don Acunes (no address given).	Daryl Wilson, San Diego County	Dorothy Beauchamp, San Clemente
Jerry Callimer, San Clemente	Karen Johnson, Carlsbad	Don Hampster, Fullerton
Ernest Clark, Oceanside	Les Beauchamp, San Clemente	Kristin Suttan, Corona
Karina Nova, Imperial Beach	Dino Cerifini, San Diego	Emily (no last name given), Placentia
Matt (no last name given), Anaheim	Jeff Purdy, San Clemente	Patrick Shebrocky, San Diego
Brad Malamud, San Clemente	Anna Noble, San Clemente	Jenna Sussex, San Clemente
Hal Forsen, San Clemente	Patti Mead, San Clemente	Richard Rozzelle, San Clemente, California Department of Parks and Recreation
Douglas Benesch, San Clemente	Geoff Harris, San Clemente Better Government Alliance, San Clemente	Donna Benesch, San Clemente
Lynette Finnila, San Clemente	Leo Galcher, San Clemente	Tim Elsner, San Clemente
Randal Seech, San Clemente	Steven Weaver, San Clemente	Steve Haubert, San Clemente
Ilse Byrnes, San Juan Capistrano, California Trails and Greenways Association	Linda Funderburk, San Clemente	Tom Souther, San Clemente
Frank Haroldson, San Clemente	Doug Funderburk, San Clemente	Dave Huber, Capistrano Beach
Tom Pezaman, San Clemente	Bob Szpila, San Clemente	Scotty Ferguson, Laguna Beach
Scott Hunt, San Clemente	John Safton, Trabuco Canyon	Jaec Mullan, Mission Viejo
Jamie Howard, Huntington Beach	Jeff Howard, Huntington Beach	Phyllis Trigg, San Clemente
Ed Schlegel, Capistrano Beach	Nora Jans, San Clemente	David Bendall, Aliso Viejo

Table 11.6-2 (continued)
List of all Persons Who Commented at the Public Scoping Meetings

Bill Holmes, Dana Point, Chairman of Steering Committee for Friends of the Foothills	Lisa Kerr, San Clemente	Jeff Purdy, San Clemente
Dr. Jane Morrison, Santa Margarita	Eric Holmes, Costa Mesa	Zachary Ponsen, San Clemente
Jayne Cavanaugh, San Juan Capistrano	Melinda Stone, San Clemente	Tim Landosky, Rancho Santa Margarita
Michael Bosse, San Clemente	Nick Wiesenfeld, Aliso Viejo	Jerry Demers, San Clemente
Carol Boot-Storie, (no address given)	Jeff Purdy, San Clemente	Kristeen Penrod, Monrovia
Laurie Headrick, San Clemente	Janet Bierney, San Clemente	Gretchen Radzwill, San Clemente
Karl Warkomski, Aliso Viejo, City of Aliso Viejo Councilman	Wayne Clark, Rancho Santa Margarita	Jesse Beck, San Juan Capistrano
Renata Breisacher Mulry, San Diego County	Terry Lee Ives, San Clemente	Leigh and Joyce Matthews, San Clemente
Bruce Schefer, San Clemente	Thomas Miller, San Clemente	Brad Malamud, San Clemente
Kathleen Burke, Laguna Niguel	Glenn Powell, San Clemente	Gloria Powell, San Clemente
Kathleen Burke, Laguna Niguel	Kathleen Burke, Laguna Niguel	Kathleen Burke, Laguna Niguel
Sarah Whelphey, San Clemente	Diana Hammer, San Clemente	Murphy, Laguna Niguel
Annette Stoner, San Clemente	Barbara Roseabaum, Coto de Caza	Brian Brower, San Clemente
Jim Stoner, San Clemente	Wallace J. White, San Clemente	Doug and Donna Benesch, San Clemente
Cindy Leach, Dana Point	Carol Collamer, San Clemente	Jerry Collamer, San Clemente
Diana Teran Blaisure, Newport Beach	Dick Amato, San Clemente	Jayne Timberlake, Goleta
Jayne Timberlake, Goleta	Jim and Aileen Bobryk, San Clemente	Barbara Barlois, San Clemente
Thomas Youngerman, San Clemente	Lynna Youngerman, San Clemente	Robin Schueler, San Clemente
Donna C. McGinnes, San Clemente	Lynette Finnila, San Clemente	Randal Seech, San Clemente
Dennis Clarke, Trabuco Canyon	Robert Hamilton, Long Beach	John Kaiser, Huntington Beach
Dr. James Gates, San Clemente	Kirk Rogers, Irvine	R. S. Alexander, San Clemente
Jeac Mullan, Mission Viejo	Dick Amato, San Clemente	Jeff Howard, Huntington Beach
Linda Funderburk, San Clemente	G. Shaw, San Clemente	P. A. Trigg, San Clemente
Susan Hagstrom, San Juan Capistrano	Lauren Halsted, San Juan Capistrano	John Callanan, San Clemente
Tori Haidinger, San Juan Capistrano	Tom Bonigut, San Clemente	Mike Evans, San Juan Capistrano
Addam Fazio, San Clemente	Linda Pyle, San Clemente	Marilyn Anderson, San Clemente
Anna Noble, San Clemente	Geo Kirkpatrick, San Clemente	Jack Davis, San Clemente
Jeff Petersen, Monarch Beach	Don and Kory Thomas, Huntington Beach	Donna C. McGinnis, San Clemente
Robert Von Kepner, San Clemente	Dee Brady, Capistrano Beach	Julie Fontaine, Irvine
Dave Perlman, Laguna Beach	Carol Farrell, San Clemente	B. L. Farrell, San Clemente
Dave Donaldson, San Clemente	Grant Ross, San Clemente	Mike Stockstill, Irvine
Ed Schlegel, Capistrano Beach	M. J. Winker, San Clemente	D. Abner, Costa Mesa
James Colston, Trabuco Canyon	Candace Newlon, San Clemente	Heather Mezak, San Clemente
Trevor Mezak, San Clemente	Samuel Salkin, San Clemente	Robert Fraser, Santa Ana
Joe and Nancy Severson, San Clemente	John Barnard, San Clemente	Jeanne O'Grady, San Clemente
Louise Reiner, San Clemente	Jon Pierce, San Juan Capistrano	Michael Susooth, San Clemente
Mathew Mais, San Clemente	Kailana Sweeney, San Clemente	Mary Reskusio, San Clemente
Cody M. Wilson, San Clemente	Eric Mehlberg, San Clemente	Randal Seech, San Clemente

Table 11.6-2 (continued)
List of all Persons Who Commented at the Public Scoping Meetings

Kristen Penrod, Monrovia	John Dorey, San Clemente	Robert Hamilton, Long Beach
Camille Bertolet, Laguna Beach	Diane Hennessy, San Clemente	Nick Nosek, San Clemente
Dr. James Gates, San Clemente	Diane Coffin, San Clemente	David L. Ochoa, San Clemente
Margaret Maas, San Clemente	Gretchen Radzwill, San Clemente	Karen Phelps, Dana Point
Alan Schmiz, Dana Point	Stephanie M. Dorey, San Clemente, San Clemente City Council	Stephanie M. Dorey, San Clemente, San Clemente City Council
Andrew Castellano, Laguna Beach	John McGaffin, San Clemente	Jeanine L. Paquette, Corona Del Mar
H. Belmont, San Clemente	Gregory Edward Koch, Anaheim	Jayne Timberlake, Goleta
Jayne Timberlake, Goleta	Eric Holmes, Costa Mesa	Eric Holmes, Costa Mesa
Piper Walsh, San Clemente	Christopher Koontz, Orange	Nona Reimer, San Clemente
Nona Reimer, San Clemente	Michael Richardson, Apple Valley	Donald and Donna Running, San Clemente
Patricia Bagnard, San Clemente	Juana Mueller, Huntington Beach	Nancy Donaven, Huntington Beach
Jack Murphy, Lake Forest	M. Beauchamp, San Clemente	Mel Stone, San Clemente
Michael Bosse, San Clemente	Judy Kollar, Tustin	Duane Miller, Laguna Hills
Yaric Donde, Huntington Beach	Kathy Alvarado, Huntington Beach	Robert McCrae, San Clemente
Darlene H. Grimes, San Clemente	Robert Garin, La Jolla	Frank Weagaut, President – Caspers Park Volunteers, Dana Point
Harold W. Clark, Rancho Santa Margarita	George C. Allen, San Clemente	Charles W. Goodwin, San Clemente
Margaret Smiddy, Dana Point	Sieglirde Johnson, Laguna Beach	Ken Nielsen, San Clemente
Steve Weaver, San Clemente	Mr. And Mrs. Paul Zisakis, Huntington Beach	Paul Martinico, San Juan Capistrano
Daniela Mueller, San Clemente	S. Neustein, Aliso Viejo	John and Shannon Little, Aliso Viejo
William Ashbaugh, San Clemente	Eileen Boswell, San Clemente	Shirley Mayfield, Laguna Niguel
Stevie Younkin, San Clemente	Doug Younkin, San Clemente	Bettie Blauser, San Clemente
J. Corbett Donohue, Jr., San Clemente	Claire Sussex, San Clemente	Judy Weeks, San Clemente
Gene Wiancko, San Clemente	Richard and Joanne Gates, San Clemente	Jan Weaver, San Clemente
R. D. Duernberger, San Clemente	Elizabeth Balsamo, San Clemente	Herb Higgins, Norco
Jerry Buckley, Mission Viejo	Les Beauchamp, San Clemente	Michael A. Stontz, San Clemente
D. M. L. Beauchamp, San Clemente	Rick Landavazo, Valley Center	Chris Schmidt, San Diego
Ann Zemer, Irvine	Dick Susoeff, San Clemente	Andrew Fine, San Clemente
James C. Hill, San Clemente	Anna Mae Noble, San Clemente	Frank M. Haroldson, (no address given).
Renata Breisacher Mulry, Director, Research, Bexen Press	George Hubner, San Clemente	Sherry Donaldson, San Juan Capistrano
Mike Duncan, Buena Park	Shelly Morgan, San Clemente	Viola H. Tucker, San Clemente
Debbie Cook, Huntington Beach	Gregory Edward Koch, Anaheim	JOHN W. MEILING, SAN CLEMENTE
J. P. Ollivier, San Clemente	Max Harris, San Clemente	Michael J. Schoenwald, San Clemente
Ron Montgomery, San Clemente	Sam Perlow, San Clemente	Bruce Lane, Tustin
Thomas and Marilyn Eads, San Clemente	Melinda Stone, San Clemente	Pattie Meade, San Clemente
Bonnie M. Meredith, Dana Point	Luke Schmick, Laguna Niguel	Cindi Morgan, San Juan Capistrano
Stan Bengston,. San Juan Capistrano	Suzanne Perry, Lake Forest	Damian DiCarlo, Orange
Robert Fraser, Santa Ana	Peter Bunge, San Clemente	Geoff Harris, San Clemente

Table 11.6-2 (continued)
List of all Persons Who Commented at the Public Scoping Meetings

Robert Fairbanks, Mission Viejo	Ken Caresio, San Clemente	Mr. And Mrs. Al Eaton, Dana Point
Don Moe, Dana Point	Mark Hoover, Newport Beach	Paul B. and Cathryne MacNeill, Mission Viejo
Jim Stoner, San Clemente	Anna Noble, San Clemente	Theola M. Faes, San Clemente
Jim Peacock, Capistrano Beach	Alvin Kaplan, Mission Viejo	F. Sassin, Capistrano Beach
W. J. & H. Polis, San Juan Capistrano	Viola A. McCaslin	Mary A. Thompson, San Clemente
James C. Hill, San Clemente	Sheila Graham, Upland	Gayle Ackerman, Development Services Manager, City of Lake Forest
Keith Hunter; Dana Point	David Kancsar, Las Vegas NV	Duane Selby, San Clemente
Mike Nelson, Capistrano Beach	Paul Shapiro, Portland OR	Mike Ward, Rancho Santa Margarita
Dan Reilly, Encinitas	Craig Kemnitz, Chicago IL	Terrence Robinson, Evanston IL
John Singer, Mill Valley	Christopher Henke, Toledo OR	Robert Hamilton, Long Beach
Ryan Yonkers, Lakewood OH	Dennis Ordiway, San Clemente	Darin R. McClure, San Clemente
Warren Overman, Gaithersburg MD	Louise Anderson, Mission Viejo	Lisa Stein, Brooklyn NY
Beverly Loney, Laguna Niguel	Paul Shapiro, Portland OR	Lucas Nagy, Richmond VA
Dan Melhado, no address given	Drew Hazzlerigg, Texas	Ken Trotta, San Clemente
Jim and Donna Callas, San Clemente	Julia Dewees, San Clemente	Eric Keen, Mission Viejo
Roger Mason, Irvine	Julia Deweese, San Clemente	Julia Deweese, San Clemente
Julia Deweese, San Clemente	United States EPA	Julia Deweese, San Clemente
Sherrell B. Donaldson, San Juan Capistrano	Danielle Braham, Laguna Beach	Allen Greenwood, San Diego Trout, San Diego
James E. and Nancy C. Lowe, San Juan Capistrano	Richard Rozzelle, Associate Park and Recreation Specialist, Department of Parks and Recreation, Orange Coast District, San Clemente	Nora C. Jans, Laguna Niguel
Yaric Donde, Huntington Beach	Kathy Alvarado, Huntington Beach	Diana Hammer, San Clemente
Tanya Porter, San Clemente	BECK POST	Mary A. and Robert Thompson, San Clemente
Thomas M. Rogers and Leslie Millerd Rogers, San Juan Capistrano	Edgar C. Buckingham, Monarch Beach	Gloria Powell, San Clemente
Sarah Whelpley, San Clemente	Steve and Christina Fazio, San Clemente	Paige Ingham, San Clemente
Claire Sussex, San Clemente	Jena Sussex, San Clemente	Cynthia Leach, Dana Point
Frank Weagant, President Caspers Park Volunteer Naturalists	Heather Mozak, San Clemente	Ralph Johnston, San Clemente
Ravin Carlson	Beverly J. Lopez, Laguna Nigel	Eva-Maria Swedlow, Mission Viejo
Cathleen Brannon, San Juan Capistrano	Rick Hazard, San Clemente	Julie Hazard, San Clemente
Karen Dugan, San Clemente	Pat Dugan, San Clemente	Sison E. Hazston
Majie Schlegel, Capistrano Beach	John Grabowski, Leucadia	Laurie Fitzgerrell, Laguna Beach
Dorothy Geisler	Jane B. Clancy	Lisa and Tony (last name illegible)
Annette and Jim Stoner, San Clemente	Tony Forbes, Balboa Island	Alton and Yvonne Cullen, San Clemente
Nancy Donaven	No name given.	Pauline Faye, San Clemente
Gary W. Graham, San Clemente	Marinka Horack, Huntington Beach	Chris Evans, San Clemente
Candace and Joe Newlon, San Clemente	Delores Brady, Capistrano Beach	Mary F. and Nicholas C Karnatis, San Clemente
Carolyn Beak, San Clemente	Yerina M. Soares	Juana Mueller, Huntington Beach

Table 11.6-2 (continued)
List of all Persons Who Commented at the Public Scoping Meetings

Dave Saresay, San Clemente	Jayne Timberlake, San Clemente	Diane Hennessy, San Clemente
Judy Kollan, Tustin	L. Mosquin	Jamie Howard, Huntington Beach
Jackson Tarango (dog), San Clemente	Domwel J. Lzcavdli, San Clemente	Tim and Barbara Elsner, San Clemente
Colleen H. Petre, San Juan Capistrano	Norm Savara, San Clemente	Linda Pyle, San Clemente
Denise Redvero-Higgins, San Juan Capistrano	Tom Hardinger	Nina Nicole Galvan
Mark Tilton and Dawn O'Hara, Capistrano Beach	Linda Wolfe, Huntington Beach	Nancy Harris, Huntington Beach
Louise Anderson	Mike and Melinda Stone, San Clemente	Steve Hommel, Laguna Beach
Paul Bray, San Clemente	Joyce Roy, San Clemente	Sue Schaer, Laguna Niguel
Eric Rendon, San Clemente	Robin Schueh, San Clemente	Michael Richardson, Apple Valley
Tom and Lynna Youngerman, San Clemente	Bill Langford, San Clemente	Steven Tribucher, San Clemente
Eddie Rose, Laguna Niguel	Karen Phelps, Dana Point	Danielle Braham, Laguna Beach
E.. Bodiford, San Clemente	Mark T. Henze, San Clemente	Gregory Edward Koch, Anaheim
Ron and Anna Winship, Newport Beach	George Hubner, San Clemente	Cory Swift, San Clemente
Leon J. Baginski, Mission Viejo	Victoria Keswick, Rancho Santa Margarita	Gary Keswick, Rancho Santa Margarita
Jim and Joe Ann Douglas, San Clemente	Shelly Katke, San Clemente	Annette Dragusku, San Clemente
Sherrell B. Donaldson, San Juan Capistrano	Paul Carlton, San Clemente	James E. and Nancy C. Lowe, San Juan Capistrano
Jim Cokas	Maiju Schlegel, Capistrano Beach	George T. Kirkpatrick, San Clemente
Camille Bertolet, Laguna Beach	Beatrix V. McLaughlin, San Clemente	Robert E. McLaughlin, San Clemente
Phoebe Stockwell, San Clemente	Wendy Morris, San Clemente	Gayle Simon, Encinitas
Donald Perlman, Sierra Club, Los Angeles Chapter, Sierra Sage Group	Phyllis Watson, San Juan Capistrano	Kathleen Pestal and Karly Pearson, San Clemente
Thomas and Leslie Millerd Rogers, San Juan Capistrano	Liz Kuhns, San Clemente	Diane Teran Blaisure, Newport Beach
Carol Boot-Storie, Laguna Niguel		

Table 11.6-3
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR They are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
Comments Related to Alternatives	
2.0, 3.0, 4.0	Consider other alternatives to the toll road: light rail, public transportation, high speed rail. La Pata to Cristianitos should be studied. Consider expanding existing roads and public transportation. Consider non-road-building alternatives. Find other solutions besides freeways. Extend surface streets instead of building the toll road. Improve the existing freeways. Develop a better solution than the toll road. Widen I-5 through San Clemente. Widen I-5. Include an alternative to extend Avenida La Pata from Ortega Highway to Cristianitos Road. Arterials alignment should include widening of Vista Hermosa. Consider connecting Camino De Los Mares with Camino Las Ramblas. Consider the Arterial Alternatives. Consider expanding Vista Hermosa. Need to consider alternatives that minimize impacts. Continuation of La Pata and widening I-5. Build via Cristianitos not Pico. No Project Alternative. Connect transportation to high speed buses on I-5. Include no toll road option. Make a thruway of Antonio Parkway to La Pata circumventing Pico. Improve existing toll roads. Include Vista Hermosa as an alternate route. Include a thorough description of all alternatives including implementation plan. Include a "real" presentation of a No Project Alternative including other means of transportation; reliable data and no "pie in the sky" figures. Include parallel bikeway facility adjacent to toll road to capture local trips. Potential for additional on/off ramps from tollway to San Clemente. Range of alternatives. Elevate the ramp over the creek and join I-5 at Camp Pendleton. Include the completion of Avenida La Pata from Ortega Highway to Cristianitos Road as an alternative. Interested in potential changes to interchange at I-5 and El Toro Road and Lake Forest. Use existing freeways and surface streets. Use existing roads.
2.0	Include alternative reports to eliminate alternatives that are not feasible or do not meet the project purpose.
2.0	Provide maps with all of the proposed alternatives and cost estimates of all the alternatives.
2.0	Equal level of analysis for each alternative.
2.0	Who would pay for arterial improvements and Antonio Parkway?
1.0	Demonstrate need for the corridor; include purpose and need of FTC-S.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
Comments Related to Biological Resources	
4.11	Unmitigable impacts on wildlife sanctuaries and natural habitat.
4.12	Impacts related to endangered, threatened and sensitive species.
4.11	Degree of destruction of habitat; habitat fragmentation (short- and long-term).
4.11	Impacts to wildlife; destruction of and impacts to wildlife corridors; impacts related to wildlife movement; migration; dispersal.
4.11	Impacts related to loss of genetic diversity.
4.11	Impacts related to spread of exotic species and to non-native seed dispersal.
4.10, 4.11, 4.12	Mitigation measures for impacts to biological resources.
4.10, 4.11, 4.12	Impacts related to ecology.
4.11	Impacts related to birds and migrating birds.
4.11	Impacts related to habitat diversity and biodiversity.
4.1	Conduct full and independent studies of mitigation success of existing toll roads.
4.10	Impacts related to wetlands, riparian resource and water resources.
4.12	Impacts related to mitigation for steelhead trout.
4.11	Impacts related to the NCCP.
4.10, 4.11, 4.12	Impacts related to biological resources.
4.11	Impacts related to frogs.
4.12	Impacts related to steelhead. Include absolute protection (not mitigation) for steelhead trout.
4.11	Impacts related to critical habitat.
4.8, 4.10	Impacts related to Cristianitos Creek.
4.12	Update the Orange County NCCP, 1996.
4.12	Focused surveys for Quino checkerspot.
4.12	Include impacts/studies related to swamp toad including location of individuals, breeding and non-breeding extent of habitat ranges.
4.12	Willow flycatcher; least Bell's vireo; tidewater goby; steelhead trout; red-legged frog; California gnatcatcher and other federally listed and sensitive species.
4.12	Include impacts related to edge effects.
4.12	Ocean species around San Mateo Point.
4.11	Wildlife includes mammals, birds, amphibians, reptiles, fish, and invertebrates. Use "A Checklist for Evaluating Impacts to Wildlife Movement Corridors" (Beier and Low 1992).
4.11	Noise as related to sensitive biotic resources.
4.10	Channelization of "virgin" streams.
4.9	Include a baseline study of the marine environment at the base of San Mateo Creek; the effects of runoff from roads and new development; birds; fish; kelp; lobsters; surf grass; SCE kelp and reef mitigation.
4.9, 4.10	Impacts related to tidal life; surf zone life; beaches from San Clemente State Park to San Onofre.
4.11	Impacts related to coastal sage scrub.
4.12	Maintenance of fish and game and habitat.
4.12	Impacts related to survival and recovery of endangered species.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
4.10, 4.11	Impacts related to aquatic resources.
Comments Related to Open Space and Recreation Uses	
4.5, 4.25	Unmitigable impacts on open space such as parks and trails.
4.25	Impacts related to San Onofre State Park and San Mateo Campground.
4.25	Impacts on and loss of open space. Protect available open space.
4.25	Impacts related to Mission Viejo Land Conservancy and loss of Conservancy values to visitors.
4.25	What right do you have to put your road through Rancho Mission Viejo Land Conservancy?
4.25	Include mitigation of parklands.
4.25	Acreage in San Onofre State Park required for tollway.
4.25	Impacts related to Caspers County Park.
Comments Related to Air Quality	
4.7	Project will create less smog.
4.7	Increased air pollution.
4.7	Emissions pollution from helicopters and traffic on toll road.
4.7	Include number of tons of auto emissions reduced along I-5 through San Clemente with the toll road.
4.7	Noxious fumes from tollway.
4.7	Impacts related to diesel fumes, contaminated air.
Comments Relating to the Scoping Meeting and Process	
The property owner of the meeting location prohibited the use of signs in the building.	Signs prohibited at the meeting. Concerns related to prohibition of signs at the meeting; that everyone in the meeting be able to express their opinions.
11.0	Concern that comments in the meeting may be non-factual.
11.0	Concern related to need for more FHWA representation at the meeting.
11.0	EIS process needs to be transparent and open to the public. Public has been denied input to alternatives development. Include the public in the planning process.
11.0	Contact list should be provided of representatives from U.S.EPA, ACOE, USFWS and Caltrans. Representatives of these agencies should be at the next scoping meeting.
The cost of scoping meetings is not an environmental issue under CEQA and NEPA.	What is the cost of this meeting?
11.0	Will the comment cards from this meeting be included in the federal record? Transcript and comment cards requested.
11.0	Why did the meeting start so late? Speakers should be limited to 3 minutes each to give more people a chance to speak.
11.0	Why was I misled that the FHWA was hosting this meeting? Falsely advertised that meeting was to let FHWA know our concerns. No representatives from FHWA were present on Monday night. Who are the officials here? Why isn't FHWA here? TCA said the scoping meeting was theirs but FHWA notice published in Federal Register indicated it was FHWA's; scoping process is a fraud.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
11.0	TCA was not listening to us.
11.0	Not confident comments would be forwarded to FHWA.
11.0	Audience's concerns were not addressed.
11.0	TCA treated meeting as a formality.
11.0	Opposed to the handling of the scoping process.
11.0	Comments related to 3/26/01 scoping meeting: inadequate press coverage; only one FHWA representative was present; we must trust that TCA will get comments to Washington D.C.; over 1,000 attended; many attendees carpooled; TCA PR attempt; meeting is a farce; signs prohibited; TCA said it was a TCA meeting, not FHWA meeting; a commentor said that TCA does a good job of managing natural resources and creating mitigation; meeting started 20 minutes late but 20 minutes was not added to end of meeting; moderator was repeatedly asked to add comments to flip chart; distrust that all comment cards will be given to FHWA; many types of commentors were lumped as environmentalists; TCA is not trusted; TCA must be removed from the environmental process; "locally preferred alignment" not preferred; toll road would divert regional traffic from San Clemente; more people are in favor of toll road but are not as vocal as opponents; 45 people spoke against toll road and 3 in favor; attendees had serious concerns about endangered species, water and air quality, state parks, clean beaches, way of life; newspaper article implied those in favor of toll road aren't as vocal or active as those opposed; please hear community views. Other comments: address given to send comments to FHWA; LA times address given.
11.0	Send me all responses to all questions.
Comments Related to Land Use and Growth	
4.2	Creation of urban sprawl; increased urban sprawl.
6.0	Impacts related to development and induced development. Impacts related to growth inducement. Comprehensive analysis of growth inducement.
4.2	Impacts related to increased development densities and increased development.
4.2	Impacts related to land use.
4.2, 6.0	Development along the toll road.
6.0	Review past similar roads and include resulting amount of development.
4.2	Impacts related to land use and planning.
Comments Related to Water Resources and Water Quality	
4.9	Urban runoff. Impacts related to runoff.
4.9	Water quality. Impacts relate to clean water issues.
4.9	Impacts related to marine environment and ocean pollution, the Pacific Ocean, water pollution at beaches and cost of ocean clean-up.
4.15	Impacts related to beach closures.
4.8	Impacts related to San Mateo Creek.
4.8	Impacts related to San Onofre State Beach.
4.8	Impacts related to fresh water.
4.8	Impacts related to groundwater usage.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
4.15	Impacts related to surf break and surfing at Trestles.
4.8	Study should include sand balance.
4.8	Impacts related to location hydraulics.
4.8	Impacts related to Old Mans.
4.8	Impacts related to sediment transport; wave quality.
4.9	Include scientific evidence of effectiveness of water quality mitigation measures.
4.8	Include honest, in-depth analysis of how impervious cover would affect watersheds impacted by toll road and near-by development; reference to other projects' impacts related to the amount of impervious cover on watersheds.
4.8	Include studies related to Q7-10 stream base flow; groundwater levels and contamination; point and non-point source pollutants; increased stream flooding; low flow maintenance model; impervious runoff impact; water balance model.
4.8	Study sand replenishment out of San Mateo Creek.
4.8	Effects of urban run-off into creeks.
4.8	Catalog of storm drains for first flush and secondary flows.
4.15	Include impacts related to coastline.
4.9	Runoff management is a known failure.
4.15	Impacts related to shoreline degradation.
4.8	Impacts related to the watershed, local hydrology.
4.15	Include a review of similar projects on similar beaches.
Comments Related to Public Services and Utilities	
4.24	Demands on water.
4.24	Impacts related to crime.
4.24	Sewage generation.
4.24	Impacts related to fire hazard.
4.24	Impacts related to evacuation plans. Study evacuation route from San Clemente in case of an emergency at San Onofre Power Plant.
4.24	Impacts related to schools including Tesoro and San Clemente High Schools.
4.24	Power needs for new housing; source of water for new residents.
4.24	Impacts related to public services and utilities including police.
Comments Related to Socioeconomics and Environmental Justice	
4.4	Elimination of homes and buildings. Impacts related to relocation.
4.4	Community character. Impacts related to City character.
4.4	Impacts related to low/limited income users.
4.4	The toll road is discriminatory to poor people.
4.4	Impacts related to population increase.
4.4	Impacts related to environmental justice.
4.4	Impacts related to economy.
4.4	Impacts related to socioeconomics of tourism. Impacts related to the surfing industry and tourism.
4.4	Impacts related to socioeconomics.
4.4	Impacts related to property values.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
4.4	Include study related to effects of development. Include statistics and scientific reports.
4.4	Include analysis of land prices in Rancho Mission Viejo with and without the toll road.
4.4	Impacts related to socioeconomics of ethnic diversity.
4.4	Impacts on individual cities including San Juan Capistrano, San Clemente related to widening of arterial streets and highways
4.4	Revenue decline.
4.4	Include discussion of what the No Build or I-5 Expansion will do to business and homes.
4.4	Landowner rights. Rights of organizations entrusted with open space.
4.4	Impacts related to economy and environment if road is not built.
4.4	Impacts related to the costs to the City of San Clemente.
4.4, 6.0	Impacts related to growth in residential and business development.
4.4	Include impacts to residents and workers now and in the future if the Central Corridor is selected. Emphasize impacts to people, not fish, animals and vegetation.
4.4	Interested in review of right-of-way required for I-5.
Comments Related to Traffic	
3.0	Increases in traffic.
3.0	La Pata should become a regional road.
3.0	Use the Harvard Study for modeling.
3.0	Impacts related to traffic congestion.
3.0	Traffic evaluation should include a population radius.
3.0	Impacts related to regional traffic.
3.0	Truck/automobile mix.
3.0	Study effects of growth on traffic congestion.
3.0	What are the projections for needing to expand I-5 through San Clemente? Will it have to be double decked?
3.0	Traffic on I-5 and 91 with no widening planned.
3.0	New traffic study.
3.0	Local San Clemente traffic study.
3.0	Include discussion of projected travel patterns for the area.
3.0	Impacts on I-5 traffic through Camp Pendleton.
3.0	Include impacts of traffic and circulation associated with Ladera Ranch on Oso.
3.0	Include estimated increases in traffic congestion on I-5 and surface streets if FTC-S is not built.
3.0	Include current I-5 traffic counts north and south bound through San Clemente.
3.0	Estimates of I-5 traffic reduction from tollway.
3.0	Increased local traffic.
3.0	Include impacts related to traffic bottleneck at 241 south and I-5 south.
Comments Related to Objectivity of the EIS/SEIR and Technical Studies	
--	Concerned about the objectivity of the EIR.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
3.0	Need an independent and objective traffic study. Traffic study must be objective and independent. Study must be non-partisan. Prove validity of TCA's traffic projections.
ES	Analysis independent of TCA needed.
4.0	Address all environmental issues and be objective.
2.0, 4.0	Include thorough and objective alternatives analysis.
3.0	Include studies related to objective traffic study, independent of TCA.
--	The project is motivated by self interest. There is no recourse once the road is built. Concerned about objectivity of the study.
--	Why are the only people conducting environmental studies from the TCA? Of course the study will be biased! TCA should not be in charge of the consultants providing data to the EIS.
Comments Related to Noise	
4.6	Impacts related to noise.
4.6	To what degree will traffic noise on I-5 through San Clemente be alleviated?
4.6	Will sound walls be constructed on I-5?
Comments Related to Aesthetics, Light and Glare	
4.18	Impacts related to light and glare.
4.18	Impacts related to natural beauty.
4.18	Impacts related to visual pollution.
4.18	Impacts to visual resources.
4.18	Impacts related to aesthetics.
Comments Related to Cumulative Impacts	
5.0	Increase in electric rates when new homes go in.
5.0	Cumulative impacts to water quality from the road and development.
5.0	Impacts related to cumulative noise.
5.0	Include water issues – California supply; what will happen to the future generations from continued development of roads and homes and destruction of the environment.
Comments Related to Long-Term Impacts	
4.0	Long-term impacts.
Comments Related to Construction Impacts	
4.0	Construction impacts related to air quality; noise; traffic; waste.
4.7	Include means of controlling pollution created by construction.
3.0	Impacts of construction traffic and the effects of laborers driving from the Inland Empire.
4.9	Water pollution due to construction runoff and debris.
4.0	Impacts related to construction; displacement of plant and animal species; runoff and debris in the creek; tenure of the project to determine the hardship it will cause.
Comments Related to Cultural and Paleontological Resources	
4.16	Impacts to cultural resources and sacred ground to Indian tribes.
4.16	Impacts to paleontological resources.
4.16	Potential damage to historic sites along toll road.
4.16	Impacts related to Indian burial area near San Mateo State Park.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
Comments Related to Hazardous Materials	
4.17	Impacts related to hazardous materials.
4.17	Impacts related to environmental safety.
4.17	Impacts related to public health.
4.17	Impacts related to lead toxins from bullets on Camp Pendleton.
4.17	Impacts related to contaminated soil.
Comments Related To Fiscal Issues That Are Not Environmental Issues Under CEQA and NEPA	
2.0	Costs of tollway directly paid by San Clemente residents.
2.0	Financial and social burden.
2.0	Can we afford the toll road? Impacts to tax payers.
2.0	Evaluate fiscal viability.
1.0	Is TCA a private or public agency? What is its source of funding? How many employees? What do the noncompete clauses say? If tolls are not high enough because of lack of use, what is the rationale for more?
4.27	Include cost benefit analysis of corridor payback. Compare FTC and San Joaquin Transportation Corridor budgets.
3.0	Prove that the toll road can simultaneously alleviate congestion on I-5 and not cost taxpayers money.
--	Unbiased fiscal studies.
1.0	Legislation regarding toll roads, protection of passing costs onto the state or federal government, source of private funds, role of FHWA.
Comments Related to Camp Pendleton	
4.21	Impacts related to Camp Pendleton.
4.21	End farming on Camp Pendleton and return land to wetlands.
4.21	Southern extension should go further south into Camp Pendleton to safeguard San Onofre State Beach.
Other Comments	
4.0	Impacts related to future generations.
3.0	Regional traffic solution with east-west connection from I-15 to SR-231, SR-90 or I-5.
3.0	Benefits of third way to and from San Clemente.
4.26	Consider the adverse environmental effects of the project.
4.15	Probability that coastal commission will approve.
4.0	Impacts related to health, well being and mental state of Orange County residents.
4.0	Studies should be based on 50 and 100 year projections.
4.0	Include how bad for the environment a project must be before it is rejected.
3.0	Include proportion of San Clemente residents expected to use toll road and number of trips vs., non- toll road; assumptions made on expansion of I-5 between San Clemente and San Diego.
3.0	Accessibility for low income drivers.
11.0	Previously submitted comments including scopes of work and evaluation criteria/impact analysis; traffic; alternatives development; induced growth; air quality; areas of controversy.
8.0	Analysis should include full mitigation costs.
--	How does the project subsidize private enterprises.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
--	Who will the operators will be; what their track record is with public projects and costs; how the public will be compensated.
1.0	Is an EIR being prepared?
1.0	Who was the lead agency on the original EIR? Who certified the original EIR?
4.0	Who is the lead to certify the federal document?
4.0	Impacts to way of life
4.0	Impacts related to local culture.
4.0	Impacts related to Trestles neighborhood, especially noise; air quality, light pollution, visual, through traffic.
8.0	Include a mitigation measure to reconfigure south El Camino Real to one lane in each direction.
ES	Include description of decision making process and responsibilities.
4.0	Impacts related to 100,000 new residents near the San Onofre Nuclear Power Plant
--	Release all supporting data prior to or with the reports.
--	Review impacts of 241 on Laurel and Laguna Canyons.
--	Design homes people can afford.
Table of Contents	Please make the EIR/EIS available on the Internet.
4.0	Impacts to Stonecliff Community.
8.0	Include mitigation results of 73 and 241.
4.0	Impacts related to public well being.
--	Impacts related to I-5 and other roads due to noncompete agreements.
4.0	Include baseline studies to judge future impact.
3.0	Demographics of who will be using the road
4.0	Psychological effects on people living in areas with no open spaces who moved to areas with open spaces.
4.0	Include a document that expresses the understanding that environment includes the interconnectedness of life and surrounding environment.
--	Provide examples of previous highways successfully built in environmentally sensitive areas with successful mitigation; more information about California transportation system.
4.0	Include number of current and projected new residents expected to use toll road.
Comments which State Opinions or Discuss Issues which are Not Environmental Issues under CEQA and NEPA	
Comments represent opinions or identify issues which are not environmental issues under CEQA and NEPA.	Eastern Alignment is best. The arterials should be completed. Traffic is a regional issue. Oppose expansion of toll road through Chino Hills State Park. Purpose of the toll road is for traffic mitigation for the proposed county airport. Existing tollways worsen traffic. Public dialogue was restricted because the meeting started late. The toll road is a global issue. TCA is not accountable to anyone. The toll road would improve existing traffic congestion and air quality. Build the toll road to Palm Springs. Toll road will be legacy to children.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
	The toll road is needed. Toll road would alleviate traffic. If traffic needs to be mitigated, why does it need to be a toll road? The reason for the toll road is to open up land for development. Opposed to widening I-5 along the coast. Freeways cause more traffic. Disagree with specifics in 1991 EIR. California's population will increase even if the toll road is not built. Consider legacy to children including affordable housing and being able to get around. Toll road is being built to further development. Traffic will increase. Developers have an interest in seeing the toll road built. Individuals should get involved with organizations like Friends of the Foothills, Surf Rider Foundation and Sierra Club. These organizations should work with TCA to make decisions. Existing toll roads are underutilized and cause pollution. Choose the No Build Alternative. Supports the East Alignment only. Traffic relief is needed. Prefers to have the road be a state highway. Opposed to any plan that ends in the San Mateo Creek area, San Onofre State Park, San Mateo Campground. Opposed to the corridor especially the FEC, AF and C alignments. Opposes alignments in the vicinity of the San Mateo watershed. Additional road is needed because of current traffic conditions. Toll roads will relieve congestion, give people more time to spend with families and positively influence economy. Concerns of the Surf Rider Foundation expressed to TCA in 1995 have not been addressed. Toll road is unnecessary. People come first before animals. The city and county control urban sprawl and building. Opposed to widening I-5. Favors the Far East alignments. Toll road is a global issue. Building the road is not the solution. Decisions should not be made by people who have career or profit at stake. The toll road is necessary to alleviate traffic and provide emergency access. Opposes an airport at El Toro. If a road is necessary it should be funded like other roads. Purpose for toll road is to open land for development. Opposes easterly alignments. Carpool lanes are not realistic. Smart road idea makes sense. Consider a scenic highway with very limited access that would dip into San Diego County in Camp Pendleton. Opposed to having all the proposals ending on I-5 at the San Diego County line. Concerned about environmental equity. If the eastern alternative is built, dedicate part to a rail bed for high speed rail to San Francisco. Studies are a waste of time and money. People are more important than animals. No studies are needed. Build the least expensive route to keep the toll as cheap as possible. Tolls are too high.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
	Use the plans and conservation philosophy used on 241. The toll road is needed that continues to Basilone Road. Build FEC Alignment only. Other alternatives will ruin San Clemente. Limiting access only to I-5 will adversely affect economy. Wildlife along Far East Alignment can be saved. Far East Crossover is a very bad idea. Huge impact to existing homeowners in Talega. Supports the alternatives east of San Clemente to Basilone Road. County and state highway system will adequately handle traffic for decades to come. Existing toll roads are not financially sound. Place more emphasis on what the people want who live in the area. TCA is not professional and disrespects the community. I demand a fair public hearing. Who is taking responsibility for people who become sick, endangered species and excess runoff. It is apparent the people of south county care about the quality of the environment that borders our city. We want to preserve the wilderness at the expense of adding new roads. Include whether or not we should support the bail out of miscalculations of Lockheed Martin Corp. Let's quit while we're ahead. Your literature is inappropriately biased in that it totally leaves out information on the two No Build Alternatives, nor does it address issue of light rail along side I-5. This road must come out south of San Clemente. Use the Far East Corridor. San Clemente is a nightmare due to building and NAFTA. There is a good chance of relief from extending the corridor. I-5 widening or arterial improvement would have fewer biological and aesthetic impacts. Your meeting on 3/26/01 was a sham, started 30 minutes late but closed on schedule. You opened my eyes to the fact that you aren't concerned about our opinions. Not wanted! Include more publicity to all communities from Laguna Niguel, El Toro, Lake Forest, Laguna Woods and Aliso Viejo about your great nature walks in the region where the toll road is going. There is a lot of negative publicity about destroying the ecology of the area and it can all be worked out. Toll road is essential. The only logical alignment is Alignment 7. The Far East Corridor is just open flat space, so it should go on [illegible word] spot. I don't see any problems with either the Cristianitos or the Ag Field Variation. We need it! People who live in San Clemente don't want a toll road. We don't believe a toll road would relieve congestion. It would open up land for more development and more congestion. Include studies of parkway concepts such as the Garden State Parkway in N.J., the Palisades Parkway in New York – N.J., the Smokey Mountain Parkway in Virginia. Project most desired is the Far East Corridor.

Table 11.6-3 (continued)
Summary of Comments from the Scoping Meetings and where in the EIS/SEIR they are Addressed

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
	Require TCA board members to hike along San Mateo Creek to Trestles Beach and spend the afternoon there. Far East Corridor is the only reasonable alternative because other alignments do not provide true alternative to I-5; will cause greater disruption to traffic and residences along Pico; will increase noise and pollution to existing homeowners; elevated roadways will block sight lines to Pacific; will reduce customer base and property values. Give more concern to human beings than "bugs and bunnies." Please listen to the surfing community. Toll roads are a necessary part of the regional transportation solution. Not necessary to destroy sensitive areas like San Mateo Creek. If cities vote to increase population, they need to provide roads for people to drive on. We favor 7, 7 Swing and 7 Far East Crossover.

Table 11.6-4
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
Summary of Comments from Federal Agencies on the Notice of Preparation		
United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (July 31, 2001)	Concern over potential impacts to federally endangered steelhead species in the San Mateo Creek watershed.	4.12
United States Department of the Interior, Fish and Wildlife Service (July 16, 2001)	Description of the environment in the vicinity of the project.	2.0
	Discussion of purpose and need for the project.	1.0
	Description of the proposed project.	2.0
	Quantitative and qualitative assessments of biological resources and habitat types impacted.	4.10, 4.11, 4.12
	Assessment of direct, indirect, cumulative project impacts and growth accommodating effects of the project to fish and wildlife habitats.	4.0, 5.0, 6.0
	Concern over sensitive and declining habitat types.	4.11
	Maps and tables summarizing acreages and locations of habitat types.	4.11
	Analysis of impacts to wildlife movement.	4.11
	Proposed measures to avoid and minimize impacts and mitigate impacts to wildlife movement.	4.11
	Assessment of potential impacts to wetlands and jurisdictional waters of the United States.	4.10
	Proposed measures to avoid and minimize impacts and mitigate impacts to wetlands and jurisdictional waters of the United States.	4.10
United States Department of the Interior, United States Geological Survey (no date)	Requested change in address.	--
Federal Emergency Management Agency (July 29, 2001)	Project elements may physically affect Special Flood Hazard Areas (SFHAs) shown on Flood Insurance Rate Maps (FIRMs).	4.8
	Application for Conditional Letters of Map Revision.	--
Summary of Comments from State Agencies on the Notice of Preparation		
State of California Department of Transportation (August 9, 2001)	Identify all environmental impacts and mitigation measures.	4.0
	Evaluation of environmental factors that affect transportation and traffic.	3.0, 4.0
	Traffic analysis (Traffic Impact Study).	3.0
	The consequences of the Non-Compete Zone.	3.0
	Impacts on recreation resources.	4.45
	Regional air quality conformity analysis.	4.7
	Cumulative impacts to biological resources.	5.0
	Review of regional groundwater records.	4.9
	Lists of relevant wells and recent and historic groundwater elevation for the wells.	4.9

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Water quality mitigation with reference to the Runoff Management Plan.	4.9
	Noise technical report preparation in accordance with Caltrans Noise Protocol.	4.6
	Relocation impacts as addressed in the socioeconomic technical report and the draft relocation impact report.	4.4
	Coordination with Caltrans on appropriate mitigation measures for aesthetics and visual impacts.	4.18
	Cultural assessments which pertain to the California Register and cultural resources as presented in state law.	4.16
State of California, The Resources Agency, California Coastal Commission (June 26, 2001)	Requested placement on mailing list for the San Francisco, Long Beach and San Diego District offices.	--
	Federal Coastal Zone Management Act Consistency Certification and Coastal Development Permit.	4.15
	Review under Section 307(c)(3)(A) of the Coastal Zone Management Act.	4.15
	Will combine coastal development permit application and consistency certification into one staff report and a single public hearing.	4.15
	Will commit that both items will be handled by one staff member from the Commission's federal consistency staff in San Francisco.	4.15
	Analysis of stream crossings with potential downstream effects.	4.9
State of California, The Resources Agency, California Department of Fish and Game (CDFG, July 10, 2001)	Purpose and need for the proposed project.	1.0
	Description of the proposed project.	2.0
	Evaluation of alternatives with respect to fish, wildlife and native plants of the state.	4.11
	Minimization of impacts to sensitive biological resources.	4.10, 4.11, 4.12
	Potential impacts to habitat integrity.	4.11
	Concern over fragmented habitats and reduced wildlife mobility even in the presence of wildlife corridors.	4.11
	Concern over decreased water quality due to road runoff.	4.9
	Habitat loss due to development caused by the presence of the road.	4.11
	Preference for the I-5 Widening or Arterial Improvements Alternatives.	2.0

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Requests development of at least one additional alternative that would reduce congestion at peak hours.	2.0
	Assessment of rare plants and rare natural communities.	4.12
	Assessment of sensitive fish, wildlife, reptile and amphibian species.	4.12
	Focused species specific survey.	4.12
	Consultation with the United States Fish and Wildlife Service to develop species specific survey procedures prior to initiation of field work.	4.12
	Rare, threatened and endangered species.	4.12
	Consultation of CDFG's California Natural Diversity Data Base for identification of sensitive species and habitat including Significant Natural Areas.	4.12
	Direct, indirect and cumulative impacts expected to adversely affect biological resources.	4.0, 5.0
	Description of regional setting.	4.0
	Impacts to public lands.	4.0
	Discussion of impacts to open space.	4.0
	Discussion of impacts to adjacent natural habitats.	4.0
	Discussion of impacts to riparian ecosystems.	4.10
	Discussion of impacts to wildlife corridor/movement areas.	4.11
	Maintenance of wildlife corridor/movement areas.	4.11
	Impacts to wildlife access to undisturbed habitat and perennial water sources.	4.8, 4.10, 4.11
	Maintenance of wildlife access to undisturbed habitat and perennial water sources.	4.11
	Caltrans data on the effectiveness of structures installed to maintain wildlife corridors.	4.11
	Discussion of impacts associated with increased lighting.	4.18
	Mitigation measures associated with increased lighting.	4.18
	Discussion of impacts associated with increased noise.	4.6
	Mitigation measures associated with increased noise.	4.6
	Discussion of impacts associated with increased human activity.	4.0
	Mitigation measures associated with increased human activity.	4.0
	Discussion of impacts associated with changes in drainage patterns.	4.9
	Mitigation measures associated with changes in drainage patterns.	4.9

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Discussion of impacts associated with changes in water volume in streams and water courses on or near the project site.	4.8, 4.9, 4.10
	Mitigation measures associated with changes in water volume in streams and water courses on or near the project site.	4.8, 4.10
	Discussion of impacts associated with changes in water velocity in streams and water courses on or near the project site.	4.8, 4.10
	Mitigation measures associated with changes in water velocity in streams and water courses on or near the project site.	4.8, 4.10
	Discussion of impacts associated with changes in water quality in streams and water courses on or near the project site.	4.9.
	Mitigation measures associated with changes in water quality in streams and water courses on or near the project site.	4.9
	Discussion of impacts associated with soil erosion in streams and water courses on or near the project site.	4.9
	Mitigation measures associated with soil erosion in streams and water courses on or near the project site.	4.9
	Discussion of impacts associated with sedimentation in streams and water courses on or near the project site.	4.9
	Mitigation measures associated with sedimentation in streams and water courses on or near the project site.	4.9
	Effectiveness of filtration devices designed to reduce the level of pollutants in road runoff.	4.8, 4.9
	Discussion of impacts to wildlife habitat in streams and lakes due to potential pollutants in road runoff.	4.11, 4.9
	Reduction of pollutant levels in runoff by the use of filtration devices or other means.	4.9
	Discussion of the operational effectiveness of filtration devices as observed on previous toll road projects.	4.9
	Analysis of the potential for growth inducement.	6.0
	Cumulative effects analysis.	5.0
	Analysis of the projects effect on regional and subregional conservation programs.	5.0
	Consistency with the Southern Orange County Natural Communities Conservation Planning (NCCP) program.	5.0
	Mitigation measures for adverse impacts to sensitive plants, animals and habitats.	4.12

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Avoidance and protection of rare natural communities.	4.12
	Does not support the use of relocation, salvage and/or transplantation as mitigation for impacts to rare, threatened or endangered species.	4.12
	Areas reserved as mitigation must be conserved as habitat in perpetuity and should be protected from future direct and indirect impacts.	8.0
	Consideration of limited access, conservation easements, monitoring and management programs, control of illegal dumping, water pollution and fire in areas reserved as mitigation for project impacts.	8.0
	Restoration and revegetation plans.	4.11
	California Endangered Species Act (CESA) Permit.	4.12
	Analysis and discussion demonstrating that each impact has been minimized and fully mitigated.	8.0
	Analysis and discussion demonstrating that all mitigation measures are capable of successful implementation.	8.0
	Analysis and discussion demonstrating that adequate funding is ensured for implementation and monitoring compliance with, and effectiveness of, the mitigation measures.	8.0
	Discussion of impacts that cause a take of endangered species.	4.12
	Discussion of the proposed project's potential to jeopardize the continued existence of the species.	4.12
	Biological mitigation monitoring and reporting proposals.	8.0
	A Mitigation Agreement and Mitigation Plan for plants listed as rare and endangered under the Native Plant Protection Act.	8.0
	Measures to ensure avoidance of takes of fully protected species.	8.0
	Preservation of wetlands and water courses whether intermittent or perennial by retaining habitat and providing setbacks to preserve riparian and aquatic value.	4.10
	Lake or Streambed Alteration Agreement.	4.10
	Identification and description of all areas subject to CDFG jurisdiction.	4.10
	Potential impacts to lake, stream or riparian resources.	4.8, 4.10
	Avoidance, mitigation, monitoring and reporting commitments for issuance of the Lake or Streambed Alteration Agreement.	8.0
	Provided "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities."	4.12

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Provided "Sensitivity of Top Priority Rare Natural Communities in Southern California."	4.12
California Regional Water Quality Control Board, San Diego Region (June 14, 2001)	Potential impacts to drainage patterns.	4.9
	Potential impacts to rate of surface water and runoff.	4.9
	Potential impacts to the quantity of surface water and runoff.	4.9
	Potential discharges into surface waters during or following construction.	4.9
	Potential significant alteration of water quality including, but not limited to, temperature, dissolved oxygen, turbidity or other typical urban storm water pollutants.	4.9
	Potential impacts to groundwater flow through alteration of pressure head with the aquifer or interception of groundwater flow via cuts or excavation.	4.9
	Impacts resulting in the loss or degradation of beneficial uses for water bodies.	4.9
	Mitigation measures for impacts to drainage patterns.	4.9
	Mitigation measures for impacts to rate of surface water and runoff.	4.9
	Mitigation measures for impacts to the quantity of surface water and runoff.	4.9
	Mitigation measures for discharges into surface waters during or following construction.	4.9
	Mitigation measures for significant alteration of water quality including, but not limited to, temperature, dissolved oxygen, turbidity or other typical urban storm water pollutants.	4.9
	Mitigation measures for impacts to groundwater flow through alteration of pressure head with the aquifer or interception of groundwater flow via cuts or excavation.	4.9
	Mitigation measures for impacts resulting in the loss or degradation of beneficial uses for water bodies.	4.9
	Provided information regarding regulatory requirements.	4.9

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
State of California Department of Conservation (July 5, 2001)	The alternatives transect a body of significant documented mineral resource deposits (MRZ-2) along the floodplain of San Juan Creek that is designated as Sector T according to the Division's Open File Report No. 94-15 "Update of Mineral Land Classification of Portland Cement Concrete Aggregate in Ventura, Los Angeles, and Orange Counties, California – Part III – Orange County" (1994).	4.22
	Impacts associated with the loss of mineral resources.	4.22
	Impacts associated depletion of mineral resources and the increased reliance on imported aggregate.	4.22
	Mitigation for impacts associated with the loss of mineral resources.	4.22
	Mitigation for impacts associated depletion of mineral resources and the increased reliance on imported aggregate.	4.22
	Discussion of the findings of the 1975 Surface Mining and Reclamation Act (SMARA) with respect to land uses that would adversely affect access to mineral resources.	4.22
	Provided Public Resources Code Section 2763.	--
State of California Native American Heritage Commission (July 3, 2001)	Records search for the potential presence of cultural resources.	4.16
	Report detailing the findings and recommendations of the records search and field survey for and archaeological inventory survey.	4.16
	Submission of site significance and mitigation measures report to the planning department.	4.16
	Site forms and final written report should be submitted to the Information Center within three months after survey completion.	4.16
	A Sacred Lands File Check from the Native American Heritage Commission.	4.16
	A list of appropriate Native American Contacts from the Native American Heritage Commission for consultation concerning the project site and assistance in mitigation.	4.16
	Provisions for accidental discovery of archaeological resources.	4.16
	Provisions for discovery of Native American human remains.	4.16
Summary of Comments from Regional Agencies on the Notice of Preparation		
South Coast Air Quality Management District (AQMD, June 28, 2001)	Identification potential adverse air quality impacts from all of the project phases.	4.7, 4.26
	Identification of air pollutant sources related to the project.	4.7

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Construction related air quality impacts.	4.7
	Operations related air quality impacts.	4.7
	Air quality impacts from indirect sources.	4.7
	Analysis of all toxic air contaminant impacts due to decommissioning or use of equipment.	4.7
	Mitigation measures for impacts to air quality.	4.7
	Requests that the lead agency refer to Chapter 11 of the AQMD CEQA Air Quality Handbook for sample mitigation.	4.7
	Requests that measures for controlling construction related emissions from AQMD's Rule 403 – Fugitive Dust and the Implementation Handbook be considered for use as CEQA mitigation.	4.7
	Discussion of impacts resulting from mitigation measures.	4.7
	AQMD rules and relevant air quality reports and data are available from the AQMD's Public Information Center.	4.7
San Diego Association of Governments (July 5, 2001)	For the build and no-build Alternatives, a 2030 volume/capacity analysis on I-5 from the San Diego/Orange County Line to State Route 78.	3.0
	Assessment of impacts to wetlands and habitat in San Diego County.	4.10
	Mitigation of impacts to wetlands and habitat in San Diego County.	4.10
	Assessment of impacts of the FEC Alternative on San Onofre State Beach.	4.15
	Mitigation of impacts of the FEC Alternative on San Onofre State Beach.	4.15
Southern California Association of Governments (SCAG, June 25, 2001)	Discussion of inconsistencies between the proposed project and applicable general plans and regional plans.	4.2
	Consistency with Regional Comprehensive Plan and Guide policies.	4.2
	Inclusion of the most current SCAG forecasts which are the 2001 Regional Transportation Plan (RTP) (April 2001) Population, Household and Employment forecasts for the Orange County Council of Governments subregion.	2.0, 3.0
	Requests that transportation investments be based on SCAG's adopted Regional Performance Indicators.	2.0
	Mitigation of environmental impacts to an acceptable level.	8.0
	Requests that Transportation Control Measures be a priority.	2.0
	Requests that new freeway facilities be open for goods movement.	2.0

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Requests that tolled highway facilities be designed, operated and priced to encourage use of public and private transit, carpools, vanpools and other high occupancy vehicles (HOVs).	2.0
	Requests that maintenance and operation be a priority over expanding capacity.	2.0
	Requests that patterns of urban development and land use that reduce costs on infrastructure and make better use of existing facilities.	--
	Requests support of local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery.	2.0
	Requests support of local jurisdictions' efforts to seek sources of funding for development and provision of services.	2.0
	Requests support of local jurisdictions actions to minimize red tape and expedite the permitting process.	1.0
	Requests that the proposed project encourage planned development in locations least likely to cause environmental impact.	4.0
	Requests support of protection of vital resources.	4.22
	Measures aimed at the preservation and protection of cultural resources and archaeological sites.	4.16
	Discourage development or encourage the use of special design requirements.	6.0
	Mitigation that reduces noise.	8.0
	Mitigation aimed at the preservation of biological and ecological resources.	8.0
	Mitigation that would reduce exposure to seismic hazards.	4.20
	Mitigation that minimizes earthquake damage.	4.20
	Emergency response and recovery plans.	4.24
	Air quality specific programs and associated actions needed.	4.7
	Consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.	4.0
	Requests that the proposed project encourage water reclamation.	4.24
	Address current impediments to increased use of wastewater.	4.24
Summary of Comments from Special Districts on the Notice of Preparation		
Saddleback Valley Unified School District (June 19, 2001)	Direct take of land from Mission Viejo High School with I-5 widening.	4.24
Summary of Comments from Local Agencies and Cities on the Notice of Preparation		
County of Orange Planning and Development Services Department (PFRD, July 16, 2001)	Identification of affected drainage facilities.	4.9

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Maps and exhibits of drainage facilities and watersheds.	4.9
	Drainage Facility Basemaps are available for purchase from PFRD/Central Files.	4.9
	Discussion of increases in runoff.	4.9
	Discussion of potential changes in drainage patterns.	4.9
	Discussion of effect on the capacity of existing drainage facilities.	4.9
	Discussion of potential flooding of downstream areas.	4.8
	Discussion of impact on existing floodplains.	4.8
	Discussion of effect on water quality.	4.9
	Discussion of any stormwater diversions.	4.9
	Existing condition hydrologic and hydraulic analysis.	4.8
	Post-project condition hydrologic and hydraulic analysis.	4.8
	Post-project condition hydrologic and hydraulic analysis.	4.8
	Use of OCFCD's methodology, criteria and standards in the 1996 Orange County Hydrology Manual (OCHM), Addendum No.1 to the OCHM, and the Orange County Flood Control Design Manual.	4.8
	Requests submission of analyses with all calculations, computer models, exhibits, scaleable hydrology and land use maps, and other study related information to PFRD/Program Developmental Division for approval.	4.8
	Request that high confidence ultimate condition discharges, if any proposed flood control facilities will be given to the County of Orange or OCFCD, or expected value discharges be used to determine incremental increases in peak discharges for implementing development mitigation requirements.	4.8
	Requests copies of prior technical studies used to address project impacts.	--
	Design and construction techniques that implement recent technologies for maintaining stream stability.	4.8
	Design and construction techniques that implement recent technologies for road runoff and pollution prevention.	4.9
	Design and construction techniques that implement recent technologies for computer controlled high efficiency landscape irrigation systems.	4.9

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Design and construction techniques that implement recent technologies for native vegetation landscaping.	4.12
	Design and construction techniques that implement recent technologies for flood damage reduction.	4.8
	Design and construction techniques that implement recent technologies for riparian species passages.	4.11
	Requests that if alternatives in the San Juan Creek Watershed are approved that the TCA collaborate with the County to obtain environmental restoration funds from the FHWA.	4.8
	Discussion of short-term construction impacts and long-term impacts to Thomas F. Riley Wilderness Park.	4.25
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Prima Deshecha Regional Park.	4.25
	Requests that impacts identified include aesthetics, noise, light, dust, operation, infrastructure and flora.	4.0
	Discussion of short-term construction impacts and long-term impacts to existing and proposed Wagon Wheel Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to existing and proposed Wagon Wheel Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Tijeras Creek Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Arroyo Trabuco Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Bell View Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Juan Creek Trail.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to existing Bell View Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Cristianitos Trail.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Cristianitos Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Prima Deshecha Trail.	4.5

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Prima Deshecha Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Prima Deshecha Staging Area.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Prima Deshecha Staging Area.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Avenida Pico Staging Area.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Trabuco Creek Bikeway.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Trabuco Creek Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Juan Creek Bikeway.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to proposed San Juan Creek Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Pico Bikeway.	4.5
	Mitigation measures for short-term construction impacts and long-term impacts to proposed Pico Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Clemente Coastal Bikeway.	
	Mitigation measures for short-term construction impacts and long-term impacts to proposed San Clemente Coastal Bikeway.	4.5
	Assessment of the need for grade-separated crossings where existing and proposed trails and bikeways intersect the proposed alternatives.	4.5
	Coordination with Orange County and the affected land owners in the area.	4.2
	Traffic study.	3.0
County of Orange Public Facilities and Resources Department (July 2, 2001)	Analysis of conflict of right of way with the current agreement with DMB/Ladera, Inc.	4.4
	Impacts to sensitive wildlife and habitat areas in the Las Flores and Ladera Planned Communities (PC).	4.11
	Magnitude of and mitigation for landform alteration.	4.20
	Magnitude of and mitigation for habitat impacts.	4.11

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Impacts to recently built and occupied homes in Planning Area 1 of the Ladera PC.	4.4
	Impacts to the commercial site in Planning Area 8 of Las Flores PC.	4.4
	Analysis of difficulty widening La Pata Avenue where it traverses the Prima Deshecha Landfill.	4.4, 4.24
	Definition of the Arterial Improvements Alternative.	2.0
	Impacts to Prima Deshecha Landfill and proposed Prima Deshecha Regional Park.	4.24, 4.25
	Preference for the Arterial Improvements Alternative.	2.0
County of Orange Public Facilities and Resources Department (July 6, 2001)	Discussion of short-term construction impacts and long-term impacts to existing and proposed Wagon Wheel Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to existing and proposed Wagon Wheel Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Tijeras Creek Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to existing Tijeras Creek Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Arroyo Trabuco Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to existing Arroyo Trabuco Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to existing Bell View Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Juan Creek Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to existing Bell View Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Cristianitos Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed Cristianitos Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Prima Deshecha Trail.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed Prima Deshecha Trail.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Prima Deshecha Staging Area.	4.5

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Mitigation for short-term construction impacts and long-term impacts to proposed Prima Deshecha Staging Area.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Avenida Pico Staging Area.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed Avenida Pico Staging Area.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Trabuco Creek Bikeway.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed Trabuco Creek Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Juan Creek Bikeway.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed San Juan Creek Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed Pico Bikeway.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed Pico Bikeway.	4.5
	Discussion of short-term construction impacts and long-term impacts to proposed San Clemente Coastal Bikeway.	4.5
	Mitigation for short-term construction impacts and long-term impacts to proposed San Clemente Coastal Bikeway.	4.5
	Assessment of the need for grade-separated crossings where existing and proposed trails and bikeways intersect the proposed alternatives.	4.5
Airport Land Use Commission for Orange County (June 26, 2001)	Requested address change.	--
City of Rancho Santa Margarita (July 13, 2001)	Wants to be kept informed about the project.	--
City of Irvine (July 11, 2001)	Location of the I-5 Widening Alternative northern boundary and proposed terminus is unclear.	2.0
	Widening impacts of I-5 in the City of Irvine.	3.0, 4.0
	Anticipated horizon years with tolls and without tolls.	3.0
	Forecast data used to determine I-5, without construction of FTC South, will be equivalent of four lanes.	3.0
City of San Clemente Community Development Department (July 10, 2001)	Request for future information.	--

Table 11.6-4 (continued)
Summary of Comments from Agencies in Response to the Notice of Preparation

Agency/Commentor	Comments	EIS/SEIR Section
	Impacts on habitat areas easterly and southerly of the City of San Clemente.	4.11
	Social and economic effects of all alternatives.	4.4
	Consequences related to the No Action Alternative.	3.0, 4.0
	Required arterial street improvements in case of No Action Alternative.	2.0
	Funding of No Action Alternative.	2.0
	Limits to development and acquirement of developable property if additional capacity cannot be created.	6.0
City of Mission Viejo (July 5, 2001)	Request for future information.	--
	Comments will be transmitted in the near future.	--
City of La Habra (July 16, 2001)	Request for a copy of the EIR.	--
	No concerns at the present.	--
City of Dana Point (July 24, 2001)	Impacts and mitigation measures of I-5 on City residents.	3.0, 4.0
	Meeting for City residents.	11.0
	Provision for I-5 included for planning purposes only.	2.0
	Jurisdiction of I-5 by Caltrans.	2.0
City of Laguna Woods (July 18, 2001)	No comments.	--
City of Lake Forest (August 6, 2001)	Request for Socioeconomics Technical Report.	4.4
	Additional right-of-way and changes required at interchanges at I-5 and El Toro Road and Lake Forest as a part of Arterial Improvements Only and I-5.	4.4
	Request for the Draft Subsequent EIR.	--

Table 11.6-5
List of Groups, Organizations and Members of the General Public Who Commented in the Response to NOP

Joanne Band of Mission Indians	Sierra Club, Angeles Chapter	Natural Resources Defense
The Irvine Company	San Diego County Archaeological Society	Rancho Mission Viejo
Aegean Hills Homeowners Association	Pacifica San Clemente Homeowners Association	Meredith Canyon Community Association
Ann Zemer	Shawn Mesbah	C. David and M. Andriette Culbertson
John T. Ezell	James F. Ignacek	Thomas R. Youngerman
Don Kunze	Elizabeth M. Venclik	Alfonso Rodaarte
Lauren Spilsbury	Jack and Virginia Severs	Jack Delman
Ron Belle	Wilma and Ford Dickerhoff	Mr. and Mrs. Franck Seres
Daniel and Diane Roach	Jamie Andrew	Fred and Ann Havens
Mildred Anderson	Gina M. Milia	Vincent V. Russo
Dr. Robert Roper	Blue Sky Properties	Gloria M. Portner
Bruce M. and Kari F. Gibson	Paul Thomsen	Fien-Line Associates
Paul E. Radcliffe	Diane M. Arnold	Vincent R. Van Pelt
John Hockins	Kirk C. Barrus	Robert H. Harnar
Richard O. Pick	Arturo L. Fontanes	W.C. Woody Stingley
Walter L. Dieckmann	Ning Ru and Jenni Yim	Catherine E. Paquette
Maria Delegan	Katy Smiser	Zain Simonson
Dorothy and Lester Gerle	Michael Harris	Jeffrey S. Hansen
Donald M. Thompson	George Allen	Carmen Z. Everett
No name	Richard E. and Joanne C. Gates	William Stenzel
Charles F. Verre	Arthur H. Chasin	Ronald H. Baker
John Moore	Daniel J. Alfonso	John Tengdin
Simon G. Zervos		

Table 11.6-6
Summary of Comments from Groups, Organization and Members of the General Public in Response to the Notice of Preparation

Section/Sections in the EIS/SEIR Where Comments are Addressed	Comments
Comments Related to Cultural and Paleontological Resources	
4.16	Disturbance and destruction of any traditional, Indian cultural villages and burial sites.
--	Request for future contact.
4.16	Contact the Ajachemen tribe for impacts on cultural resources
4.16	Mitigation to cultural resources that are significant under CEQA.
4.16	Data in and date of cultural resources.
4.16	Indian spokesman spoken to.
4.16	Data in paleontological resources.
Comments Related to Traffic	
3.0	New independent, peer-reviewed traffic study to include expected number of San Clemente residents using the toll road, number of trips versus non toll road use, additional traffic generated by the toll road in Inland Empire communities and San Diego County, impact on I-5 between San Clemente and Oceanside from additional traffic, assumptions made with I-5, impact study on San Clemente from the bottleneck from merging traffic on I-5 and the toll road, attention to 15 mile distance of no exits as toll road runs through Camp Pendleton, impact of the bottleneck on evacuation plans and emergency vehicle access in case of San Onofre Nuclear Generating Station disaster, impacts on traffic congestion from agreements between Caltrans and the TCA regarding construction on highway limits near the toll road, split traffic figures into truck and automobile trips.
3.0	Traffic impacts through 2025 of all alternatives on the proposed El Toro airport. Including anticipated uses of toll road by the airport both direct and indirect.
3.4	Impact on traffic flow in surrounding communities.
3.0, 6.0	Impacts of toll road induced growth on traffic.
3.4	Impact on traffic along Camino Las Ramblas.
3.4	Significant traffic impact.
3.2	Data in and date of transportation/traffic.
3.0	Inability of project to relieve I-5 congestion.
Comments Related to Recreation Resources	
4.25	Recreation impacts.
4.25	Impact on San Onofre Sate Park and San Mateo Campground.
4.25	Mitigation for loss of San Mateo Campground must also serve as mitigation for loss of San Onofre public beach.
4.25	Data in parklands and resources.
4.25	Division of park lands.
Comments Related to Biological Resources	
4.11	Impacts and mitigation measures on the coastal sage scrub NCCP.
4.12	Impact on endangered and rare habitat and special aquatic sites.
4.11	Impact on natural habitat from fertilizers and non-native organisms.
4.11	Impact on wildlife and corridors.
4.8, 4.11	Impacts on natural and beneficial floodplain values.
4.10	Potential significant impact on federally protected wetlands.
4.12	Impacts on steelhead trout migration in San Mateo Creek.
4.8	Potentially significant impact on San Mateo Creek.

Table 11.6-6 (continued)
Summary of Comments from Groups, Organization and Members of the General Public in Response to the Notice of Preparation

Section/Sections in the EIS/SEIR Where Comments Are Addressed	Comments
4.10, 4.11, 4.12	Data in and date of biological resources.
4.11	Health of breeding animals living in wildlife corridor.
4.11	Division of wildlife communities.
4.11	Significant impact on conservation areas.
	Comments Related to Socioeconomics
4.4	Impact on residential and business development.
4.4	Direct and indirect impacts on local tourism businesses from growth inducement.
4.4	Location of existing housing units that are proposed to be acquired.
4.4, 6.0	Data in socioeconomics and growth inducement.
4.4	Data in relocation impacts.
	Comments Related to Air Quality and Noise
4.6	Impact on noise pollution in surrounding communities.
4.6	Intolerable noise levels.
4.6	Data in and date of noise.
4.6	Protection by a sound wall in impacted areas.
4.6	Sound walls.
	Comments Related to Air Quality
4.7	Impact on air pollution in surrounding communities.
4.7	Data in and date of air quality.
	Comments Related to Water Resources and Water Quality
4.8	Impact on watersheds and ocean water quality from run-off and non-point source pollution.
4.8	Impact on housing developments from 100-year flood hazard area from growth inducement.
4.8, 4.9	Data in and date of hydrology and water quality.
4.9	Stream pollution.
4.8	Data in location hydraulics.
4.9	Data in Runoff Management Plan.
4.9	Impact on aquifer, groundwater and stream water quality.
4.9	Direct and indirect impacts on local tourism businesses from water quality impacts and growth inducement.
	Comments Related to Construction Impacts
4.0	Construction impacts.
4.24	Impacts of waste material during construction.
	Comments Related to Aesthetics
4.18	Aesthetic impacts that are potentially significant on scenic resources.
4.18	Data in and date of aesthetics.
	Comments Related to Land Use
4.2	General plans and zoning designations the toll road will cross.
4.2	Impacts of I-5 and AIO on all lands.
4.2	Impact of alternatives on existing and planned development in the City of Irvine.
4.2	Impact on parking capacity in the Irvine Auto Center and Spectrum 5.
4.2, 4.3	Loss of agricultural land.
4.2	Data in and date of land use planning.

Table 11.6-6 (continued)
Summary of Comments from Groups, Organization and Members of the General Public in Response to the Notice of Preparation

Section/Sections in the EIS/SEIR Where Comments Are Addressed	Comments
6.0	Relationship between proposed facilities and possible growth.
4.2	Considering alternatives in context of existing general plans of relevant jurisdictions.
Comments Related to Earth Resources	
4.20	Area within ancient landslide territory.
4.20	Significant impact on geology and soil.
4.20	Data in geotechnology, geology and soils.
Comments Related to Hazardous Materials and Wastes	
4.17	Data in and date of hazards and hazardous materials.
4.17	Data in hazards and hazardous materials.
Other Comments	
4.0	Impacts on the environment of each alternative.
ES	Addition of the NMFS to list of other public agencies whose approval is required.
--	Request for a copy of the Draft EIR.
--	Request for a copy of the Cultural Resources Technical Report.
2.0	Financing of the Foothill Transportation Corridor South.
ES	Joint preparation and issuance of the SEIR by FHWA and the TCA.
11.0	Public scoping meetings held by TCA.
2.0	More efficient movement of goods on toll roads.
3.0	Correlations independent from the TCA.
--	Findings from 1980 to 1989.
4.0	The effect on the Calle Portola area.
2.0	Distance of proposed widening with I-5 Alternative.
2.0	Estimated timeline of project.
2.0	New route east of FEC Alternative.
4.24	Data in public services and utilities.
4.21	Data in military impacts.
--	Request to be removed from mailing list.
Comments Which State Opinions or Discuss Issues which are not Environmental Issues under CEQA and NEPA	
--	Opposition against entire project.
--	Support for I-5.
--	Opposition against AIO and I-5.
--	Support for the FEC Alternative.
--	Opposed to the AIO, CC and A7C Alternatives.
--	Support for I-5 and CC Alternatives.
--	Support for FEC-C, FEC-AFV, FEC-CV and A7C-FECV Alternatives and opposed to the FEC-TV, FEC-OHV, FEC-APV, all CC options, A7C-C, A7C-7SV, A7C-OHV, A7C-ALPV AIO, I-5 and No Action Alternatives.
--	All alternatives are unacceptable except FEC.
--	Support for A7C-FECV Alternative.
--	Opposition against extending Toll Road 241.
--	Support for Agricultural Fields Variations.
--	Support for the FEC without the Talega Variation.
--	Opposition against Talega Variations.

Table 11.6-6 (continued)
Summary of Comments from Groups, Organization and Members of the General Public in Response to the Notice of Preparation

Section/Sections in the EIS/SEIR Where Comments Are Addressed	Comments
--	Support for FEC-CV Alternative.
--	Opposition against FEC-APV Alternative.
--	Support for A7C-FECV Alternative and opposition against A7C Alternative.
--	Support for FEC-AFV Alternative and opposition against I-5 Alternative.
--	Support for FEC, FEC-AFV, A7C-FECV and No Action Alternatives.
--	Opposition against routes through established areas of San Clemente and surrounding areas.
--	Support for an alternative through a far east location.
--	Support for entire project.
--	Support for I-5 and AIO Alternatives and opposition against FEC, CC and A7C Alternatives.
--	Support for FEC Alternative and opposition against the CC Alternative.
--	Support for A7C Alternative.
--	Support for FEC-AFV and A7C-FECV Alternatives.
--	Support for AIO Alternative.
--	Support for FEC, FEC-CV, FEC-OHV and FEC-APV Alternatives and opposition against FEC-AFV, FEC-TV, all CC options, all A7C options, AIO, I-5 and No Action Alternatives.
--	Support for CC Alternative.
--	Support for FEC and No Action Alternatives.
--	Support for FEC-AFV and FEC-APV Alternatives.
--	Support for AIP Alternative.
--	Support for A7C Alternative.
--	Support for I-5, AIO and FEC without Talega Variation Alternatives.
--	Support for FEC, A7C and CC Alternatives and opposition against AIP Alternative.
--	Opposition against I-5 Alternative.

Table 11.6-7
Summary of Comments in Response to the Notice of Intent

Agency/Commentor	Comments	EIS/SEIR Section
United States Environmental Protection Agency (March 29, 2001)	• Incorporation of previous studies and input. • Evaluation criteria for traffic and water resources. • Traffic analysis, assumption and presentation of data. • Definition of the No Action Alternative. • Cumulative impacts. • Growth inducement. • Air quality, full consideration of all alternatives. • Add "Areas of Controversy" to the EIS Summary. • Environmental Justice. • Use of recycled materials.	2.0, 3.0, 4.0, 5.0, 6.0
United States Department of the Interior Fish and Wildlife Service (April 17, 2001).	No additional comments, beyond comments already provided through the Collaborative process.	--
Center for Biological Diversity (May 10, 2001).	• Opposed to the toll road. • Impacts on listed species. • Water quality. • Impacts on the State Park.	4.9, 4.12, 4.25
Natural Resources Defense Council (May 9, 2001).	• Impacts on protected species. • Water quality impacts.	4.12, 4.9
	• Induced growth. • Impacts on parkland at the State Park.	6.0, 4.25
	• Impacts on Trestles Beach. • Affects on congestion.	4.9, 3.0
	• San Mateo Creek habitat. • Alternatives to the corridor.	4.12, 2.0
	• Need for the project. • Local and regional air quality.	1.0, 4.7
	• Cumulative and indirect impacts. • Compliance with the federal Endangered Species Act.	5.0, 4.12
	• Compliance with Section 4(f) of the Transportation Act of 1966.	Appendix H
Endangered Habitats League (March 19, 2001)	• Traffic forecasting. • Measures of effectiveness. • Alternatives. • Ecological units. • Ecological functions. • Disturbance regimes (fire, flood, sediment transport). • Growth inducement. • Induced traffic. • Rare, threatened and endangered species. • Water quality. • Animal and plant habitats. • Wildlife movement. • Parks.	3.0, 2.0, 4.12, 5.0, 4.9, 4.11, 4.25

SECTION 12.0
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Note: This Index has not been updated since the publication of the Draft EIS/SEIR.

SECTION 13.0
LIST OF REFERENCES AND CONTACTS

13.1 REFERENCES FOR THE EIS/SEIR

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13.2 CONTACTS

The following were contacted during the preparation of this EIS/SEIR and the technical reports for the analysis of the South Orange County Transportation Infrastructure Improvement Project (SOCTIIP) alternatives.

California Highway Patrol: Lt. Steve Deck.

Capistrano Unified School District: Cary Brockman, Director of Facilities Planning.

Center for Demographic Research (CDR) California State University at Fullerton: Bill Gayk, Director.

City of Dana Point
Brenda Chase, Associate Planner

City of Irvine
Sarah Bucher, Planner, City of Irvine Planning Department

City of Lake Forest

Connie Loyola, Planner

City of Laguna Hills
Julie Malloy, Planner

City of Laguna Niguel
Kelly Koldius, Planner

City of Laguna Woods
Lauren Barr, Director of Community Development

City of Mission Viejo
Jackie Alexander, Information Technology Manager
Jason Ficht, Planner, Planning and Zoning Department

City of Rancho Santa Margarita
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City of San Juan Capistrano:
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William Ramsey, Principal Planner
Douglas Dumhart.

City of San Clemente:
Carrie Walls, Engineering Technician
Jim Peches, Coastal/Advance Planning.
Larry Longnecker, Planning and Zoning.
Laura Reinsimar.
Pauline Lapre, Community Development Agency, Building Division
Orange County Sheriff, San Clemente: Lt. Fred Lasanti.
Sheldon Ah-Sing, Planning and Zoning.

County of Orange Planning & Development Services Department (PDSD):
Tim Neely, Manager, Environmental Planning Services Division.
Trish McNally, Environmental Planning Services Division.
Harry Persaud, Environmental Planning Services Division.
Chuck Shoemaker, Environmental Planning Services Division.
James Thue, Current Planning Services Division.

County of Orange Assessor's Office: Ron Terranova, Appraiser II.

County of Orange Assessor's Office: Randy Lee.

Deutscher, Tim, Golf Course Supervisor, Mission Viejo Golf Course, personal contact (August 7, 2001).

Hogle Ireland: Roger Green and Carmen Vali.

Irvine Unified School District: Bridgette Campos, Facilities.

Lenar Homes: Holly McKee.

Lifelong Learning: Sandra Jensen, Assistant Branch Manager.

Macline, Ray, Head of Maintenance and Operations, Saddleback Valley Unified School District, personal contact (August 9, 2001).

Maloy, Julie, Associate Planner, City of Laguna Hills, personal contact (August 6, 2001).

Marbella Golf and Country Club Main Office, personal contact (August 8, 2001).

Marine Corps Base Camp Pendleton:

Agnula Burdan, Real Estate.
Chief Robert Praytor, Fire Chief, MCB Camp Pendleton Fire Department.
Commander Carlson, Branch Medical Clinic Coordinator, MCB Camp Pendleton.
Deb McKay, Community Planner, MCB Camp Pendleton.
Don Taylor, MCB Camp Pendleton.
Ed Dougil, Base Facilities.
Jay Carey, Environmental Security.
Joe Fitts, Director, Family Housing.
Larry Rannals, Community Plans and Liaison Office (CP&LO).
Marlo C. McFaul, Base Public Works Department.
Scott Thomas, Environmental Security.
Stuart M. Cannon, RF, FORSCOM Forester/Land Manager, LTC (Ret) USA.
Ted Thomas, Base Facilities.
Terry Finch, Base Operations & Training.

Mission Viejo Library: Cindy Sands.

Orange County Fire Authority (OCFA): Michael Rohde, Battalion Chief, Advance Planning.

Orange County Integrated Waste Management Department: Robert Richmond, Planner IV, Regulatory Compliance.

Orange County Public Library System: Dave Sankey for Bob Genzel.

Orange County Transportation Authority (OCTA): Shirley Hsaio, Senior Transportation Analyst

Planning Solutions: Jay Bullock.

Prima Deshecha Landfill: George Der, Senior Project Manager.

Rancho Mission Viejo: Laura Coley-Eisenberg.

San Juan Hills Country Club Shop Assistant, personal contact (August 7, 2001).

Southern California Association of Governments: Javier Minjares, GIS/Data Base.

State of California Department of Parks and Recreation:

Michael Tope, Orange County District Superintendent.
David Pryor, Resource Ecologist, Orange Coast District.
Richard Rozzelle, Technical Services Manager, Orange Coast District.

Talega Golf Course Assistant Professional, personal contact (August 6, 2001).

The South Campus of the Crystal Cathedral Ministries: Cheryl Ellison, Chief Operating Director.

United States Army Corps of Engineers:
Fari Tabatabai, Senior Regulatory Project Manager
Erik Larsen, Ecologist/Project Manager

United States Department of Agriculture Natural Resources Conservation Service: Erica Szlosek.

United States Fish and Wildlife Service (USFWS)
David Zoutendyk, Biologist

13.3 INTERNET SITES

The following internet sites were used in the technical research for the SOCTIIP analyses:

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Orange County Water District (OCWD) website (http://www.ocwd.com/) (July 11, 2001).

South Orange County Wastewater Authority (SOCWA) website (http://socwa.com/) (June 21, 2002).

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State of California, Office of Military Base Reuse and Retention web page: www.commerce.ca.gov., "Business & Community Resources," "Military Base Revitalization" (as of 9/5/02).

13.4 ADDITIONAL REFERENCES

In addition to the references listed in Section 13.1, additional references were used in the preparation of the technical reports for the analysis of the SOCTIIP. Those additional references are listed in each technical report. Refer to the Table of Contents for locations where the individual Technical Reports are available for review or purchase. The technical reports for the SOCTIIP are:

Air Quality Technical Report (Mestre Greve Associates, 2003).

Geotechnical, Geology and Soils Technical Report (GeoPentech, 2003).

Hazardous Materials and Wastes Technical Report (P&D Consultants, 2003).

Hydrology Technical Report (Psomas, 2003).

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