Addendum to the Environmental Impact Report for the San Clemente Dam Seismic Safety Project (State Clearinghouse Number 200591148)

A. Introduction and Background

The San Clemente Dam Seismic Safety Project was the subject of a Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) that was certified by the Department of Water Resources (DWR) in 2007.

California American Water Company (CAW), the project applicant, recently notified DWR's Division of Safety of Dams of its desire to make slight changes to two elements of the project relative to what had been described in the FEIR/EIS. DWR has determined that the proposals represent minor changes that do not trigger the need for a subsequent EIR pursuant to Section 15162 or a supplement to an EIR pursuant to Section 15163.

DWR has prepared this Addendum to the FEIR pursuant to CEQA Guidelines Section 15164, subsection (a) which states "The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred."

B. Proposed Changes

CAW proposes two changes to the Tularcitos Access Route as described in the FEIR/EIS, a substitute of the entrance to the route and a change in the size and location of staging areas. This substitute and the changes to the staging areas are depicted on Figure 1 (modified from Figure 3.2-2 in the FEIR/EIS). The substitute entrance and relocated staging areas are depicted in red on Figure 1. Two staging areas that were evaluated in the FEIR, but which CAW does not currently plan to develop, are shown in blue. The remainder of the route as described in the FEIR/EIS at Figure 3.2-2 is the same.

CAW has also proposed specific implementation measures associated with construction access involving the installation of a temporary crossing over the existing concrete ford where the access road crosses the Carmel River (see Figure 1). CAW intends to build a temporary crossing to avoid direct use of the existing in-stream concrete ford for construction traffic. Use of the in-stream concrete ford was discussed in the FEIR/EIS, but it was also anticipated that minor improvements might be made to the existing access road (*see* Chapters 3.2.5, 3.4.5, and 3.5.5 in the FEIR/EIS). As a result, the temporary crossing does not constitute a change to the FEIR/EIS.

1. Access Route Entrance

Access to the project work site by way of the Tularcitos Access Route was evaluated in the FEIR/EIS at pages 3.2-23 through 3.2-27.

CAW has proposed to relocate the entrance to the Tularcitos Access Route to a location on Carmel Valley Road approximately 1,100 to 3,200 feet west of San Clemente Drive on land owned by CAW. The precise entrance location will be selected by the contractor based the most feasible location for the bridge crossing. The purpose of this change is to further reduce noise, traffic, and other impacts to a residential neighborhood. The substitute entrance would have basically the same impacts as those that would result from the route described in the FEIR/EIS. Although the location is slightly different, the same species, habitat, and other environmental concerns are the same for either entrance route. Mitigation measures would be the same for the new route as the route described in the FEIR/EIS.

2. Staging Areas

The FEIR/EIS evaluated the impacts of a 5-acre concrete batch plant and staging area located approximately 2,400 feet northeast of the Carmel Valley Filter Plant road (page 3.2-10, Figure 3.2-8) and a .65-acre staging located approximately 2,600 feet south of the Carmel Valley Filter Plant road (page 3.2-15). These are depicted in blue on Figure 1.

CAW has proposed changes to the staging areas including different locations and smaller sizes. The analysis in the FEIR/EIS anticipated use of the Tularcitos Access Route in conjunction with the dam buttressing alternative. Because CAW has elected to remove the dam instead, the larger staging areas evaluated in the FEIR/EIS will not be required. For instance, the following staging areas proposed by CAW would be in lieu of the 5-acre concrete batch plant and staging area and the .65-acre staging area described in the FEIR/EIS.

CAW has proposed development of the following sites.

Staging Area 1 - Approximately 1.3 acre offloading area for equipment at the intersection of the new entrance with the Carmel Valley Filter Plant access route.

Staging Area 2 - Approximately 0.9 acre staging area near the existing Clearwell Tank.

Staging Area 3 - Approximately 2.0 acre staging area near Monterey Peninsula Water Management District's Sleepy Hollow Steelhead Rearing Facility

3. Temporary Crossing Over Existing Concrete Ford

The FEIR/EIS discussion of construction access from Carmel Valley Road to San Clemente Dam includes the use of a concrete in-channel ford where the access road crosses Carmel River (*see* pages 3.2-24, 3.4-4, and 3.5-17). However, California Department of Fish and Wildlife will not permit the use of the in-channel concrete ford during periods when there is flow in the Carmel River. Therefore, CAW plans to install a temporary crossing over the Carmel River to avoid use of the in-stream concrete ford.

C. Environmental Impact of Proposed Changes

DWR concludes that the proposed changes will not cause new or different environmental impacts from those already evaluated in the FEIR/EIS.

The substitute entrance to the access route covers a similar distance and would be constructed using similar materials and techniques as the entrance discussed in the FEIR/EIS. All mitigation measures described in the FEIR/EIS would apply to the substitute entrance.

The substitute staging areas would likewise not result in any new or different environmental impacts. The overall staging area footprint will be less than that described in the FEIR/EIS, and no additional impacts will occur as a result of developing and using these staging areas.

Installation of the temporary crossing over the existing concrete ford would not result in any new or different environmental impacts. Installation and use of the temporary crossing will further reduce Carmel River fishery and water quality impacts.

At the request of CAW, URS Corporation reviewed and briefly documented potential impacts of the proposed changes to wildlife and vegetation, among other things (see attached). URS conclusions, that neither proposed change would cause any new environmental impacts not previously identified and mitigated for, are consistent with DWR's conclusions.

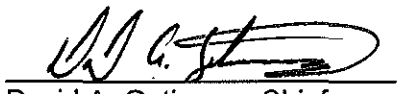
D. Department of Water Resources Approval of Addendum

I find that:

1. Changes or additions have been proposed for the Project.

2. The changes or additions proposed for the Project are minor changes that do not trigger the need to prepare a subsequent EIR or supplement to the FEIR.

3. Because the location, nature, and extent of project impacts will be the same or less than those described in the FEIR, no new or more severe environmental impacts will result as a result of the changes or additions proposed for the Project, and an Addendum is appropriate.



David A. Gutierrez, Chief
Division of Safety of Dams
Department of Water Resources

4/5/13
Date

Attachments:

1. CEQA Memo
2. Tularcitos Fisheries Memo
3. San Clemente Dam Traffic Memo
4. Access Road Length Email
5. Tularcitos Access Road Route Supplemental Noise Analysis
6. CRRDR THR Wetland Summary
7. Tree and Vegetation Impacts Technical Memo

Substitute Entrance
Concrete Batch Plant and Staging Area
Staging Area 1 (Equipment off-loading Area)
Carmel Valley Filter Plant Access Road
Carmel Valley Filter Plant
Pipeline Access Road
Existing CAW Gate
Clearwell Tank
Staging Area 2
Staging Area (0.65 acre)
Temporary Bridge Crossing at River Ford
River Ford (Concrete)
Sleepy Hollow Fish Rearing Facility
Staging Area 3
Old Carmel River Dam Bridge
Plunge Pool Access Road
Site Limits of Work
San Clemente Dam
Jeep Trail from Cachagua Road
Low Road Access
High Road Access
Carmel Valley Road
Water Tank
BM 406
BM 506
Tularcitos Guard Sta
Sleepy Hollow Subdivision
San Clemente Drive
Filter Plant
TULARCITOS CREEK
CARMEL RIVER
SAN CLEMENTE DAM
SPILLWAY
SAN CLEMENTE CREEK
Canyon Rd
1734
525

Existing Road
Tularcitos Access Route
Staging Area
Curve Widening
Stream
Reservoir
Cachagua/4R
New Feature
Eliminated Feature

0 500 1,000 2,000 Feet

CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE IV
NORTH AMERICAN DATUM OF 1983

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San Clemente Dam EIR/EIS
Figure 1
Changes discussed in Addendum to FEIR/EIS

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URS

Date: March 20, 2013, revised April 5, 2013

To: Bob Schubert, Monterey County Planning Department

From: Bill Martin, Katherine Dudney, Francesca Demgen and Seth Gentzler, URS Corporation

Re: **CEQA Memo: Proposed Changes to the Tularcitos Access Route and Comparison of Potential Impacts**

In 2006 the Department of Water Resources (DWR) released a joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for the San Clemente Dam Seismic Safety Project. In December 2007, DWR certified the Final EIR/EIS (FEIR/EIS) in compliance with CEQA; the document was published in January 2008. The FEIR/EIS analyzed a number of project alternatives ranging from strengthening the existing dam to complete dam removal. Construction access for each of the alternatives was assessed in the FEIR/EIS. In July 2012, DWR finalized a Supplement to the EIR (July 2012 SEIR) which evaluated the impacts of: 1) increased volume of sediment excavation; 2) removal of the instrument hut near the dam's left abutment; 3) refined approaches to slope stabilization and water diversion; 4) modifications to expected project-generated traffic volumes; 5) realignment of the Reservoir Access Road connecting the Jeep Trail to the reservoir area; and 6) use of Tassajara Road and Southern Cachagua Road for a portion of the project traffic. In August 2012, the State Coastal Conservancy finalized a second SEIR (SEIR #2) which evaluated the impacts of removing Old Carmel River Dam rather than notching it.

In the FEIR/EIS, construction access for the Proponents Proposed Alternative (Dam Strengthening) was via the Tularcitos Access Route, an access route from Carmel Valley Road, located entirely on land owned by California American Water (CAW). The route would pass by the Carmel Valley Filter Plant to San Clemente Drive, then split into a Low Road to the base of San Clemente Dam and a High Road to the top of the dam. This route, with slight modifications is being incorporated into the alternative currently proposed for construction: The Carmel River Reroute and San Clemente Dam Removal (CRRDR, Alternative 3 in the FEIR/EIS). The Tularcitos Access Route modifications and potential impact changes are the subject of this memo, prepared in response to Monterey County's request for information, namely:

1. A description of proposed changes to the CRRDR project
2. Comparison of the proposed 2013 Tularcitos - High Road Access Route (THR) with the Tularcitos Access Route as assessed in the FEIR/EIS
3. Assessment of the potential changes to impacts and mitigation as a result of the new route

The incorporation of the modified Tularcitos Access Route for all construction access would eliminate the impacts evaluated in the July 2012 SEIR associated with realignment of the Reservoir Access Road and the use of Tassajara Road and Southern Cachagua Road for a portion of the project traffic. All of the

other project changes evaluated in the July 2012 SEIR, plus the changes evaluated in SEIR #2, would continue to apply to the proposed project.

1.0 Description of Original and Proposed Modified Routes

1.1 Original (2008) Tularcitos Access route

In the FEIR/EIS, the original Tularcitos Access Route, shown on Figure 1, included a new bridge over Tularcitos Creek, upgrades to both the High Road to the upper portion of San Clemente Dam (SCD) and the Low Road to the base of the dam, and improvements to the existing Pipeline Access Road that runs from the Filter Plant to the Clearwell. This route was to be developed as a permanent access road to the Carmel Valley Filter Plant and SCD.

The Tularcitos Access Route was described as a 3-mile access road to SCD from Carmel Valley Road requiring realignment and improvements to accommodate heavy equipment used for construction activities. The new road would start at Carmel Valley Road about 800 feet west of San Clemente Drive, cross Tularcitos Creek over a new bridge, and provide access to a proposed staging area and concrete batch plant (that were part of the Proponents Proposed Alternative). The existing road between the staging area and the filter plant would be upgraded and widened to 22 feet.

Approximately 175 feet from its origin at Carmel Valley Road the route alignment crossed Tularcitos Creek. A permanent, single-lane, 200 foot long, steel truss bridge with a wood deck and concrete abutments was proposed. Though Tularcitos Creek normally contains minimal flow, the contributing watershed at this location is approximately 36,000 acres and the bridge would have been designed to pass a 100-year storm. It was estimated that a bridge with a clear area of approximately 800 square feet underneath would be necessary to pass flood flows from the 100-year storm.

In the 2008 proposed route, the bridge at Old Carmel River Dam (OCRD) would have been replaced to accommodate heavy trucks.

Proposed improvements to the existing road surfaces included grading, minor widening, and vegetation trimming at various locations along the filter plant road, San Clemente Drive (beyond the CAW gate) and along the High and Low roads to accommodate construction traffic.

1.2 Proposed (2013) Tularcitos - High Road Access Route

Construction access for the CRRDR Project will be provided via a proposed construction access road through CAW property that extends from Carmel Valley Road to the Project site. Figure 1 shows the proposed route alignment. The construction access road, hereafter referred to as the Tularcitos-High Road (THR) route, will involve improvement of existing roads and construction of new roads and bridges, as necessary to allow construction traffic and equipment to access the site. Other than a slight change in alignment near the entrance, the route to the dam follows the route originally proposed in the FEIR/EIS.

The THR route intersects with Carmel Valley Road approximately 1,100 feet west of San Clemente Drive. A temporary bridge over Tularcitos Creek may be installed during CY1 and will be replaced by a permanent crossing structure, no later than CY3. The bridge would span approximately 200 feet across Tularcitos Creek at a height designed to pass 100-year storm event flows, thereby avoiding impacts to fish passage.

After crossing Tularcitos Creek, the THR route will be graded to pass under a 30-inch water pipeline, which will be braced to accommodate equipment passing underneath. Approximately 1,300 feet from Carmel Valley Road the entrance portion of the THR route transitions to the existing CAW filter plant access road. The THR route would follow the improved filter plant access road alignment for approximately 2,500 feet until approximately 150 feet before the filter plant road intersects with San Clemente Drive (near the existing CAW gate). At this point the THR route would extend due south for approximately 200 to 300 feet before connecting into the existing CAW access road (an extension of San Clemente Drive on CAW property). For this 200 to 300 foot portion of the route, the road bed would be excavated down approximately 2 feet. The excavated material (approximately 150 cubic yards) will be added to an unvegetated area of slope between the THR and San Clemente Drive. The fill will slightly steepen the slope and create a berm between the THR and San Clemente Drive to minimize visual and noise impacts to the adjacent residence (Figure 3).

After connecting into the existing CAW access road, the THR route would run south and east until its intersection with the High Road. The access route would then follow the High Road alignment to its termination at the site limits of work (near the left dam abutment staging area). The High Road would require minor improvements for construction traffic. At the Sleepy Hollow Ford low-flow crossing of the Carmel River, a temporary bridge may be installed if the concrete ford is not sufficient to allow construction traffic to cross the river. If a temporary bridge across the Carmel River is necessary, it would either be sized to accommodate the 100-year storm, or would be removed from the river during the wet season.

One staging and one equipment offloading area would be built during CY1 along the THR Route (Figure 1). The equipment offloading area allows equipment mobilization trucks to off-load large construction equipment and its location roughly corresponds to the concrete batch plant and staging area that was part of the original route. This offloading area will not be used to store material or equipment. Types of equipment include articulated haulers, large hydraulic excavators, motor graders, bulldozers (D12), cranes, and mobile material screening plants. The equipment would then be driven under its own power to the dam site using the High Road route summarized above. A staging area is planned along the THR route near the existing clearwell, to stage both equipment and materials for the Project.

Ride sharing vehicles, material hauling trucks, smaller equipment hauling trucks, and limited management personal vehicles would travel along the entire route to access the work area.

At the start of construction, select construction equipment would occasionally use San Clemente Drive through the Sleepy Hollow community to facilitate construction of the access roads.

Heavy construction equipment would access OCRD for demolition activities using either the Plunge Pool Access Road (Figure 1) from upstream after SCD is removed, or possibly the Low Road from SCD down to OCRD prior to removal of SCD. The existing Low and Plunge Pool Roads would require relatively minor removal of vegetation and grading to be made passable by construction equipment as opposed to the more extensive improvements planned under the original route discussed in the FEIR/EIS.

The CEQA Addendum prepared by DWR considers locating the access route entrance off of Carmel Valley Road and the bridge over Tularcitos Creek within the area from 1,100 to 3, 200 feet west of San Clemente Drive on land owned by CAW (Figure 2). This memo considers both the specific route proposed by CAW and the broader options addressed in the Addendum. The Addendum also assumes use of the Pipeline Access Road as described in the FEIR/EIS. The impacts for use of the Pipeline Access Road would be the same as assessed in the FEIR/EIS and no further analysis is necessary. CAW does not currently propose to use the Pipeline Access Road.

2.0 Comparison of the Original and THR (new) routes

There are essentially four primary changes between the original and 2013 proposed access route:

1) Change in entrance location along Carmel Valley Road and alignment of the initial portion of the access road, including the location of the Tularcitos Creek Bridge (Figures 1 and 2)
2) At the south end of San Clemente Drive the road is realigned to the west placing it further away from Sleepy Hollow residences, before connecting to San Clemente Drive south of CAW's locked gate and adding a landscaped earthen berm
3) Possible installation of a temporary bridge over the Sleepy Hollow Ford, and associated approach grading
4) The THR would use the Low Road only minimally, and thus the Low Road would not need to be extensively improved.

Table 1 further summarizes differences between the two routes.

Table 1: Comparison of Original Tularcitos Access Route and proposed 2013 THR routes

Issue	Original Tularcitos Access Route	2013 THR Route
Tularcitos Creek Bridge	Included	Included but at a location approximately 250 feet west of the originally proposed bridge.
Route	Low Road – included in route and used by the majority of construction traffic. Would have been improved with cuts, including blasting, to achieve needed widths. High Road -- High Road would be used for outgoing traffic	Includes use of the low road for access to Old Carmel River Dam (addressed in 2012 SEIR #2 for OCRD removal). Minor improvements such as vegetation trimming and grading may be necessary, but no widening would be required. Route involves use of High Road for incoming and outgoing traffic.
Pipeline Access Road	Included	Included

Table 1: Comparison of Original Tularcitos Access Route and proposed 2013 THR routes		
Issue	**Original Tularcitos Access Route**	**2013 THR Route**
Width	22 feet with a 3 foot drainage ditch	Road width would range from 12 to 18 feet along road tangents, and would be wider at curves to accommodate design vehicle turning radius.
Carmel River Bridge	Replacement of bridge at Old Carmel River Dam	Possible installation of temporary bridge at the Sleepy Hollow Ford
Staging Areas	Concrete batch plant and staging area near Carmel Valley Road. Near Clearwell tank (optional)	Equipment offloading area at approximately same location as original concrete batch plant and staging area. Near Clearwell tank (Figure 1)

3.0 Discussion of Impacts and Mitigation

This section provides a brief discussion of impacts of the 2013 THR Route and compares those qualitatively (and quantitatively if possible) to the impacts described in the FEIR/EIS. In many cases as is typical for many CEQA documents, impacts in the FEIR/EIS are described on a project-wide basis and not specifically quantified by individual project components (e.g., a specific access road).

In general, impacts for the THR were covered in the FEIR/EIS. Impact quantities may be somewhat different (greater or less), but the types of impacts were considered and would be similar to those already described in the FEIR/EIS. There are only minor changes in the alignment of the THR, and compared with the route assessed in the FEIR/EIS, impacts would not be substantially different than those already addressed and would not be considered "new" impacts. Mitigation measures would be the same as those described in the FEIR/EIS and July 2012 SEIR and summarized in the July 2012 Mitigation Monitoring and Reporting Program (MMRP) for the Final EIR/EIS and Final SEIR.

No new significant impacts or substantially increased significant impacts were identified.

No new mitigation measures are required and none are proposed.

3.1 Geology and Soils

Issues GS-2 (Access Route Landslides) and GS-4 (Soil Erosion) in the FEIR/EIS were assessed for the original Tularcitos Access Route and would apply to construction of the THR. These impacts were considered Less than Significant with Mitigation in the FEIR/EIS. Modification of the entrance alignment and other minor modifications to the alignment would not alter the potential impacts described in the FEIR/EIS. Mitigation[1] would be the same, and includes providing construction design specifications to

[1] For details on all mitigation measures, refer to the July 2012 MMRP.

minimize slope instability at cuts for the access road and implementing erosion control and BMPs to minimize erosion.

No new significant impacts would occur as a result of the proposed modifications to the Tularcitos Access Route and no new mitigation measures would be required.

3.2 Hydrology and Water Resources

None of the Hydrology and Water Resources Issues (impacts) described in the FEIR/EIS were assessed specifically for construction of the access road. Both the originally proposed Tularcitos Access Route and the THR would construct a bridge over Tularcitos Creek. CAW proposes to locate the Tularcitos Creek bridge approximately 250 feet west of the originally proposed bridge, and the Addendum considers bridge locations up to 2,000 feet west of the originally proposed bridge. Both the original and currently proposed bridges would clear span Tularcitos Creek and would not affect flow in the creek. Both would be designed to pass the 100 year storm and both would be permanent structures, thus there would be no differences in regards to Hydrology and Water Resources, other than location of the bridge.

The THR would use the High Road with access to this road via the existing low-flow crossing or a temporary bridge over the Carmel River at the Sleepy Hollow Ford (Figure 1). The temporary bridge would also clear span the river with no supports or fill in the river that could affect flow. The bridge would be designed to pass the 100 year storm or be removed in the winter.

No new impacts to hydrology would occur and no new mitigation would be required.

3.3 Water Quality

FEIR/EIS Issues WQ-1 (Road Construction and Improvement Activities), WQ-2 (Instream, Streambank and/or Stream Margin Construction Activities), and WQ-3 (Accidental Leaks and Spills of Toxic Substances) apply to access road construction and were assessed for the construction of the original Tularcitos Access Route. All of these impacts were considered less than significant with mitigation in the FEIR/EIS. These impact categories would also apply to the THR.

As described in the FEIR/EIS, construction near streams could result in sediment discharges and increased turbidity. Accidental spills could release toxic materials into the water. The THR would not involve substantially greater amounts of excavation near streams or have an inherently greater risk of accidental spills or leaks than the originally proposed and analyzed route, and would thus not result in any new significant impact. Impacts for the proposed modifications would still be considered less than significant with mitigation.

Mitigation measures for the original Tularcitos Access Route for Issues WQ-1, WQ-2 and WQ-3 included implementation of standard erosion control methods, BMPs, and associated water quality monitoring measures developed and included in the project's Storm Water Pollution Prevention Plan (SWPPP) (Appendix K of the FEIR/EIS). For accidental spills of toxic substances, mitigation included adherence to a

Spill Prevention, Containment, and Countermeasure (SPCC) Plan to be developed by the construction contractor.

Since impacts would be similar, the mitigation measures would apply and no new mitigation would be required.

3.4 Fisheries

Studies conducted for the FEIR/EIS, and reported in Section 4.4 of the document, characterized fish resources in both the Carmel River and Tularcitos Creek. The document acknowledged the presence of steelhead, as well as steelhead spawning and rearing habitat in the Carmel River and Tularcitos Creek.

Issue FI-1 (Access Route Improvements) in the FEIR/EIS addressed the construction of a bridge over Tularcitos Creek and associated disturbance to riparian habitat for construction of the bridge. The road approach and bridge construction would result in the loss of up to 50 feet of riparian vegetation shading along each bank of Tularcitos Creek. This section also described impacts of road construction along the Carmel River, including potential loss of riparian vegetation and potential water quality effects such as short term increases in turbidity during construction. Mitigation measures for these impacts were addressed in the FEIR/EIS and included reestablishment of riparian vegetation as identified in Appendix U (Botanical Resources Management Plan) and implementation of a SWPPP to protect water quality, as identified in Appendix K of the FEIR/EIS. This impact was considered less than significant with mitigation in the FEIR/EIS.

Although the proposed THR has an entrance location that is 250 feet west of the original location, impacts would be similar to those described in the FEIR/EIS, namely that approximately 50 feet of riparian cover would be removed on each bank to construct the bridge. Approximately the same amount of riparian habitat would have to be removed for bridge locations further to the west. Riparian habitat and cover is similar throughout this reach of Tularcitos Creek, based on observations made during site visits on January 15 and 22, 2013, therefore impacts to riparian habitat would be similar to that addressed in the FEIR/EIS. Mitigation of the impacts would be the same as the original Tularcitos Access Route as described in the FEIR/EIS. Disturbed riparian habitat would be replaced per guidance provided in the Botanical Resources Management Plan (FEIR/EIS Appendix U). Temporary water quality impacts from potentially increased turbidity would be the same as those described in the FEIR/EIS and would be mitigated in the same way: by implementation of the provisions in the SWPPP.

Impacts of the THR would be similar and thus would be considered less than significant with mitigation. Mitigation would be as addressed in the FEIR/EIS and no new mitigation measures would be required, however, the mitigation would now also apply to Tularcitos Creek.

Issue FI-2 in the FEIR/EIS (Dewatering River Channels for Construction Purposes) described the impacts of dewatering a 100-foot section of the Tularcitos Creek channel for bridge construction. Mitigation for this impact was to implement fish rescue and relocation efforts for the dewatered portion of the creek. This impact was considered a significant, unavoidable short-term impact.

The CAW's proposed bridge across Tularcitos Creek for the THR would clear-span the creek and would not have structures (pier walls or piles) located in the creekbed. No fill within the ordinary high water mark would occur. Therefore, there would be no permanent loss of fish habitat. If the proposed bridge requires pile driving that could result in hydroacoustic impacts to fish, dewatering a 100-foot section of Tularcitos Creek may be necessary to avoid mortality to steelhead. Since the impacts would be the same as described in the FEIR/EIS, the mitigation measures would apply and no new mitigation would be required. The mitigation would now also apply to Tularcitos Creek.

The THR currently proposes to use the existing crossing at Sleepy Hollow Ford, but may include a temporary bridge for access to the High Road. This crossing was not specifically discussed in the fisheries section of the FEIR/EIS, although fishery resources were adequately characterized for this river reach by studies conducted for the original document. Approximately 50 feet of riparian vegetation would be removed on each bank for placement of this bridge. This temporary crossing would clear-span the river and would not result in any fill or placement of structures within the ordinary high water mark of the river. In addition, no dewatering or diversion of the river would be necessary for placement of this crossing. Disturbed riparian habitat would be replaced per guidance provided in the Botanical Resources Management Plan and no new or additional mitigation measures would be required. Temporary water quality effects would be similar to those described in the FEIR/EIS for the Tularcitos Creek Bridge and would be mitigated through implementation of the provisions in the SWPPP. This impact would be considered less than significant with mitigation.

The FEIR/EIS described removal of riparian vegetation as necessary along the Carmel River between the Sleepy Hollow Ford and OCRD (the Low Road, Figure 1). Tree removal would have been limited to only those limbs or trees that require cutting to meet access requirements along the Carmel River between the Sleepy Hollow Ford and OCRD. The Low Road would have been the primary access route to the dam and this road would have undergone improvements including replacement of the bridge at OCRD to accommodate heavy trucks. These impacts would not occur with the proposed THR route.

3.5 Vegetation and Wildlife

Issues VE-1 (Special-Status Plant Species), VE-2 (Loss of Protected Oak Woodland), VE-3 (Loss of other Native Vegetation), VE-4 (Indirect Effects on Native Vegetation), WI-6 (Tularcitos Access Road Construction), WI-8 (Vegetation Removal and Construction-Related Disturbance), and WI-9 (Pre-Existing Access Road Improvements) in the FEIR/EIS were assessed for the original Tularcitos Access Route and would apply to construction of the THR. All of these issues were determined to be less than significant with mitigation for the original route. The mitigation proposed in the FEIR/EIS for each of the issues would still apply and be the same for the THR.

Impacts to native vegetation (VE-1, VE-2, VE-3, and VE-4) would be similar between the original Tularcitos Access Route and the new THR. In both cases, a new road would be constructed from Carmel Valley Road, crossing over Tularcitos Creek, and connecting to the existing filter plant road. Both the original Tularcitos Access Route and the new THR would result in the removal of riparian vegetation around the Tularcitos Creek crossing and oak woodland as the route approaches the filter plant road.

The quantities of habitat and tree removal would be similar. Potential impacts to special status plants and indirect effects to vegetation would be the same as considered in the FEIR/EIS.

If constructed, a new temporary bridge at Sleepy Hollow Ford may result in removal of approximately 50 feet of riparian vegetation. This impact is similar to the impact that will occur with the construction of the bridge over Tularcitos Creek described in the FEIR/EIS. Construction of the bridge would avoid direct impacts to wetlands and waters at this location by spanning the 100 year floodplain. If the existing ford crossing is used, riparian vegetation removal would be minor if needed at all. In comparison to the original Tularcitos Access Route, the quantity of this vegetation removal may be somewhat offset by the reduced impacts to the Low Road for the THR. The mitigation described for these crossings, restoration of riparian vegetation as per the Botanical Resources Management Plan, would apply to the temporary bridge at Sleepy Hollow Ford. With the incorporation of this mitigation, these impacts would be less than significant.

The Tularcitos Access Route was described as 22 feet wide with a 3 foot wide drainage ditch. The new THR would be generally 12 to 18 feet wide, but may be slightly wider in some places to accommodate turning or passing vehicles. Minor road widening will be needed on curves along the High Road. This widening will occur primarily in areas that lack vegetation and would result in minimal impacts to vegetation. Mitigation measures described in the FEIR/EIS would apply. With the incorporation of this mitigation, these impacts would be less than significant.

Impacts to wildlife associated with the road construction, including direct and indirect impacts, would be the same as described in the FEIR/EIS Issues WI-6 (Tularcitos Access Road Construction (effects to special-status species)) and WI-9 (Pre-Existing Access Road Improvements (effects to special-status species)). Mitigation measures proposed would still apply. These impacts were considered to be short-term and less than significant with mitigation.

3.6 Wetlands

The THR route would avoid direct impacts to wetlands and other waters of the U.S. The construction of the bridge over Tularcitos Creek and the temporary bridge at the Sleepy Hollow Ford (if built) could result in indirect impacts to wetland features as described in issue WET-3 (Indirect Impacts to Wetlands and Other Waters of the U.S.) in the FEIR/EIS. The impacts and mitigation described for WET-3 would apply to the THR. Similar to the findings in the FEIR/EIS, these impacts would be less than significant with mitigation and short-term.

3.7 Air Quality

Issue AQ-2 (Access Road Upgrades) assessed daily and annual air emissions for construction of access roads for the proponents proposed project. Tables 4.7-18 and 4.7-19 in the FEIR/EIS provide estimated emissions. Estimated daily emissions from fuel combustion for road construction itself would not exceed any level of significance. Though PM_{10} did not exceed criteria, mitigation measures were proposed to reduce fugitive dust emissions. Due to the nuisance level that could occur to residents of Sleepy Hollow, DWR considered the impact significant and unavoidable for short periods of time.

The THR has a very similar alignment to the Tularcitos Access Route assessed in the FEIR/EIS, also includes construction of a permanent bridge over Tularcitos Creek, and would be constructed using similar equipment. The THR would not involve extensive improvements to the Low Road or structural improvements to the bridge at OCRD, but may involve installation of a temporary bridge over the Carmel River at the Sleepy Hollow Ford. Because the differences between the two routes are small, air emissions resulting from construction of the THR would be similar to those described in the FEIR/EIS.

Issue AQ-3 (Project Generated Traffic) addressed impacts of the trucks and worker vehicles accessing the site. Factors that affect the amount of emissions include the number of vehicle trips as well as the distance that vehicles are driven. Project generated truck trips for the proposed alternative are described in the July 2012 SEIR (approximately 28 trips per day at the beginning of the construction season and averaging about 3 trucks per day during most of the construction period). Worker trips are expected to be up to approximately 160 round trips per day on the THR route as evaluated in the SEIR.

Trip length is the other factor involved in determining exhaust emissions. A valid exhaust emissions comparison is between vehicles traveling on the Alternative 3 (the CRRDR) access route with the current THR route. The access route assessed for Alternative 3 in the FEIR/EIS was Carmel Valley Road to Cachagua Road to the Jeep Trail, a distance of approximately 7 miles (one way) from the currently proposed THR entrance to the dam site. Vehicles using the THR would travel only approximately 4.5 miles (one way to the dam site), thus exhaust emissions would be reduced somewhat because of the shorter vehicle trip length. The access route analyzed in the July 2012 SEIR included the use of Tassajara Road, Cachagua Road and the Jeep Trail, a significantly longer route (approximately 20 miles longer, one-way, than the THR). When this route is compared with the THR, vehicle miles travelled are substantially lower and thus emissions would be substantially lower than those addressed in the July 2012 SEIR.

Project generated traffic was considered a significant, unavoidable short-term impact in the FEIR/EIS primarily due to fugitive dust emissions from vehicles traveling on unpaved portions of access roads. This would still be considered significant due to truck travel on the unpaved portions of the THR to and from the dam site that would sometimes be upwind of residential neighborhoods and, if not mitigated, create the potential for dust nuisance complaints. Mitigation would be the same as that proposed in the FEIR/EIS, and would primarily consist of requiring the contractor to minimize dust generated during construction through implementation of the dust suppression techniques, including frequent watering of unpaved surfaces and applying base rock.

3.8 Greenhouse Gas Emissions

The FEIR/EIS did not analyze greenhouse gas (GHG) emissions as this was not required under CEQA at the time of publication (2008). In August of 2007, Senate Bill 97 directed the Office of Planning and Research (OPR) to develop guideline amendments for the analysis of climate change in CEQA documents. OPR released draft CEQA Guidelines for GHGs and final amendments to the CEQA Guidelines became effective on March 18, 2010.

DWR's 2012 supplemental EIR (SEIR) estimated total GHG emissions from fuel combustion equipment and vehicles during construction. The access route analyzed in the SEIR was approximately 20 miles longer than the THR route currently proposed. The SEIR concluded that GHG emissions would not exceed levels of significance. The emissions were deemed to be small in comparison to the amount of greenhouse gas emissions for major facilities that are required to report greenhouse gas emissions (25,000 metric tons of CO2e per year). This is also consistent with DWR's Climate Action Plan which covers projects that emit less than a total of 25,000 metric tons of CO2e for the project or 12,500 metric tons of CO2e per year for any single construction project.

To compare the THR emissions to the original access route, it is relevant to consider only the changes in fuel combustion equipment and vehicle use since emission factors for the scenarios would be the same. Total emissions are a combination of equipment use times an emission factor. The THR has a very similar alignment to the Tularcitos Access Route analyzed in the FEIR/EIS. Like the original route, the THR includes construction of a permanent bridge over Tularcitos Creek and would be constructed using similar equipment. The THR would not involve extensive improvements to the Low Road or structural improvements to the bridge at OCRD, but may involve installation of a temporary bridge over the Carmel River at the Sleepy Hollow Ford. Because the differences between the two routes are small and would have similar equipment activity usage, the GHG emissions, even though they weren't quantified in the original FEIR/EIS, would be expected to be similar.

The access road improvements and truck trips analyzed in the 2012 SEIR were for more intensive road access improvement activity and a longer truck trip route. Thus there is a reduction in overall fuel combustion equipment and vehicle use associated with the THR compared to the Cachagua/Tassajara Route analyzed in the July 2012 SEIR. Therefore the GHG emissions would be expected to be lower than those reported for the July 2012 SEIR.

Based on a comparison of anticipated fuel combustion activity it can be concluded that the GHG emissions associated with the change to the THR are less than the emissions evaluated in both the previous FEIR/EIS and July 2012 SEIR. The impact from GHG emissions remains less than significant.

3.9 Noise

Issue NO-2 (Access Road Upgrades) and Issue NO-3 (Project Generated Traffic) in the FEIR/EIS described noise impacts during the construction of the access road and noise generated by vehicles on the access road during the construction phase of the project. These were considered significant, unavoidable short-term impacts.

Access Road Construction: During access road construction equipment such as scrapers, bulldozers, backhoes, and excavators would be used. Construction equipment would be similar for both the originally proposed route and the THR. This equipment typical generates noise levels of 75 to 85

decibels (A-weighted, dBA[2]) at a distance of approximately 50 feet. The noise attenuates with distance and the FEIR/EIS stated that noise exposures associated with road improvement would be in the 60 to 80 dBA range and would be very noticeable above background noise levels at Sleepy Hollow receptors.

A supplemental noise study was conducted for the THR. Additional ambient noise measurements and modeling were conducted to assess potential noise impacts. This supplemental noise analysis showed results similar to those reported in the FEIR/EIS. Construction activities would generate intermittent, short-term, and unavoidable impacts at nearby noise-sensitive receivers when construction activities are being conducted nearby. Impacts would decrease as construction activities move further away from each respective receiver. Noise would be in the 60 to 80 dBA range, depending on the distance to the receiver. The FEIR/EIS also concluded that noise generated by access road construction would range from 60 to 80 dBA. These similar construction noise impacts would be considered significant, unavoidable and short-term as they were for the originally proposed access route. Measures to reduce access road construction noise levels would be the same as those presented in the FEIR/EIS and would include:

- Use construction equipment that is of quiet design, has a high-quality muffler system, and is well maintained. This includes trucks used to haul materials.
- Install engine enclosure panels when required on stationary gas, diesel, or pump equipment.
- Eliminate unnecessary idling of machines when not in use.
- Use good maintenance and lubrication procedures to reduce operating noise.
- Conduct construction activities during daytime hours

Project Generated Traffic: Project generated traffic noise was assessed in the FEIR/EIS. Typical project-generated traffic would be comprised of material delivery trucks and construction worker vehicles traveling to and from the site. Large diesel trucks would be employed to deliver aggregate and heavy equipment to the dam site. These trucks have large diesel engines and produce noise levels of 7S to 80 dBA under full load and 70 to 75 dBA while idling (100 feet). Construction worker vehicles traveling to and from the dam site include standard gas engine cars, pickups and vans, producing noise levels of 55 to 65 dBA at 50 feet. Vehicles would be similar for the THR.

The FEIR/EIS estimated that receivers in Sleepy Hollow would experience intermittent truck passby noise of approximately 60-77 dBA at areas in the northern portion of San Clemente Drive and approximately 65-80 dBA at locations nearest the southern end of San Clemente Drive (FEIR/EIS Table 4.8-8). Worker vehicles would produce noise in the range of 47-57 dBA to the north and 50-60 dBA to the south. These impacts were considered significant, unavoidable and short-term. The FEIR/EIS concludes that project generated traffic noise for the CRRDR would be the same as for the Proponent's Proposed Project. Traffic noise would be generated by large diesel trucks delivering equipment materials to the site, construction equipment driving to the site, and worker vehicles.

[2] A-weighting de-emphasizes the very low and very high frequency components of sound in a manner that simulates the frequency response of human hearing, and correlates well with people's group reactions to sound and environmental noise.

Noise modeling conducted for the THR yielded very similar results to those in the FIER/EIS, with truck passby noise levels approximately 70-75 dBA at the north end of San Clemente Drive and approximately 77 dBA at the southern end and worker vehicle passbys at approximately 44-57 dBA. These are within the range of estimates provided in the FEIR/EIS.

These noise levels would be intermittent and short-term, only occurring when trucks or worker vehicles are passing nearby. However, since background levels are relatively low in the area away from Carmel Valley Road, vehicle traffic passing the road several times per hour would be noticeable.

As with the original proposed access route, noise impacts from the THR would be considered significant, unavoidable and short-term and would be the same as those already addressed in the FEIR/EIS. Mitigation would be the same as that in the FEIR/EIS. No new mitigation measures would be required.

3.10 Traffic and Circulation

The FEIR/EIS addressed three impacts related to the Tularcitos Access Route: Issue TC-4 (Inadequate Corner Sight Distances), Issue TC-5 (New Intersections), and Issue TC-6 (Neighborhood Quality of Life).

Corner Sight Distances: The FEIR/EIS determined that corner sight distance to the location of the Tularcitos Access Road looking from the east along Carmel Valley Road was approximately 300 feet and the sight distance from the west is approximately 350 feet. The posted speed limit on Carmel Valley Road is 35 miles per hour (mph), although average vehicle speeds measured along this relatively straight portion of the roadway were 40 mph. The recommended stopping sight distance is 300 feet for vehicles traveling 40 mph, and therefore corner sight distances were deemed adequate.

With CAW's proposed alignment, the intersection for the THR would be approximately 1,100 feet west of San Clemente Drive (approximately 250 feet west of the original intersection). This location provides a corner site distance from the east of approximately 380 feet, and a corner site distance from the west of approximately 245 feet. A design speed of 40 mph is appropriate for vehicles approaching from the east. As stated above, the stopping sight distance for a design speed of 40 mph is 300 feet. Therefore, adequate corner sight distance would be provided on Carmel Valley Road for vehicles approaching from the east. From the west, a design speed of 25 mph is appropriate as vehicles would be travelling slower around the curves just west of the proposed intersection. The stopping sight distance for a design speed of 25 mph is 150 feet. The corner sight distance approaching the proposed location of the THR entrance from the west is approximately 245 feet, which exceeds the 150 foot stopping sight distance. Therefore, adequate corner sight distance would be provided on Carmel Valley Road for vehicles approaching from the west.

If the THR entrance is located further to the west, the recommended design speed is 45 mph, based on measured vehicle speeds along this portion of Carmel Valley Road. The stopping sight distance for 45 mph is 360 feet. A sight distance of over 360 feet in both directions can be provided by locating the intersection for the western entrance alternative at the center of the curve in Carmel Valley Road as shown on Figure 1.

New intersection: The FEIR/EIS addressed the new intersection on Carmel Valley Road that would be created at the entrance to the Tularcitos Access Route. This intersection would be designed to meet Monterey County design standards. The FEIR/EIS concluded that during periods of peak traffic demand during the construction project, the new intersection would operate at Level of Service (LOS) A.

The traffic analysis was updated for the THR, using current peak project generated traffic estimates and updated average daily traffic volumes for Carmel Valley Road. The analysis yielded the same result as the FEIR/EIS, indicating the new intersection would operate at LOS A.

As for the original Tularcitos Access Route, the new intersection would be appropriately identified with advance warning and/or construction work zone signage on Carmel Valley Road. Analysis of the peak hour intersection operations indicates that left-turn channelization would not be required on the westbound Carmel Valley Road approach and a right turn lane would not be required on the eastbound Carmel Valley Road approach to the new THR.

Neighborhood Quality of Life: The FEIR/EIS addressed the use of San Clemente Drive through Sleepy Hollow during the first year of construction for heavy equipment mobilization and worker trips, until the Tularcitos Access Route construction was completed. This impact was considered significant and unavoidable.

The currently proposed plan would not use San Clemente Drive though Sleepy Hollow for equipment mobilization or worker trips on a regular basis, but vehicles and equipment would occasionally need to access the site via this road early in the construction schedule. Use of San Clemente Drive will be consistent with the terms and conditions of the August 29, 2012 MOU between CAW and the Sleepy Hollow Homeowners Association. Use of San Clemente Drive would likely be less than that described for the original Tularcitos Access Route and for a shorter period of time.

Construction vehicle use of San Clemente Drive would still be considered significant, unavoidable and short-term under the THR, however, the level of impact would be somewhat less than under the original plan. Mitigation set forth in the FEIR/EIS included (but was not limited to) developing and implementing a Traffic Coordination and Communication Plan, a Traffic Safety Plan, and traffic volume limitations.

3.11 Cultural Resources

Issue CR-1 (Ground Disturbance) was addressed in the FEIR/EIS. A large village site (labeled AR-1 in the FEIR/EIS) extends on both sides of the Tularcitos Access Route just north of the Carmel Valley Filter Plant (CVFP). The site consists of two large midden areas separated by a small, possibly sterile, area. Constituents of the site include shell and faunal bone fragments, some of which appear to be burned, lithic tools, mortar fragments, pestles, metates, and other possibly ground stone milling tools. At least five bedrock mortar features have been located along the riverbank. The site has been recommended eligible for listing on the NRHP. The FEIR/EIS concluded that improvement or increased use of the current access road near the CVFP could damage or destroy the archaeological resource. As portions of this village site within the APE are still intact, monitoring of construction activities was recommended to

protect those portions from inadvertent damage. This impact was considered less than significant with mitigation.

The THR would follow the same route in this area as the original Tularcitos Access Route, and thus the same impacts could occur. Mitigation addressed in the FEIR/EIS, in the form of a comprehensive monitoring plan would be implemented for the THR. In addition, the contractor has agreed to not conduct any excavation in this area.

3.12 Aesthetics

Views from residences were assessed in the FEIR/FEIS. Generally, views of the Tularcitos Access Route are obstructed for most residences due to terrain and dense vegetation. Portions of the access route and staging areas may visible from more elevated, but distant locations north of Carmel Valley Road. In these more distant locations, residents may view trucks and vehicles travelling the road and equipment being offloaded, during regular daytime working hours. The FEIR/EIS considered potential impacts to views from Sleepy Hollow, primarily of the concrete batch plant, as significant and unavoidable, but short-term. Other visual impacts were considered less than significant due to the more distant views. No mitigation was proposed.

The THR does not differ significantly from the original route in the majority of its alignment, but the proposed project alternative (CRRDR) does not include a concrete batch plant. The equipment offloading area would be in the same approximate location as the batch plant described under the Proponents Proposed Alternative in the FEIR/EIS. Impacts to visual resources from the THR are expected to be the same, or somewhat less, with some residents potentially being able to see construction vehicles and equipment at clearings or partially screened through the vegetation along the route. At the southern end of the San Clemente Drive, the berm between the THR and San Clemente Drive, described in Section 1.2, would help to screen this portion of the THR from the residence near the CAW gate.

As with the original proposed access route, potential impacts from the THR route to views from Sleepy Hollow would be considered significant, unavoidable and short-term while other visual impacts would be considered less than significant. Mitigation would be the same as that in the FEIR/EIS. No new mitigation measures would be required.

3.13 Recreation

Neither the originally proposed Tularcitos Access Route nor the THR would affect recreational users. The access route is on private property and would be for private use only.

3.14 Land Use

There would be no changes to land use impacts as described in the FEIR/EIS.

3.15 Other Environmental Effects

Other environmental effects addressed in the FEIR/EIS included population, housing, and employment. These issues are not specific to the access route component. No specific impacts were addressed for the access route in the FEIR/EIS and no new impacts in these topic areas would be applicable to the THR.

4.0 CEQA Documentation for the THR

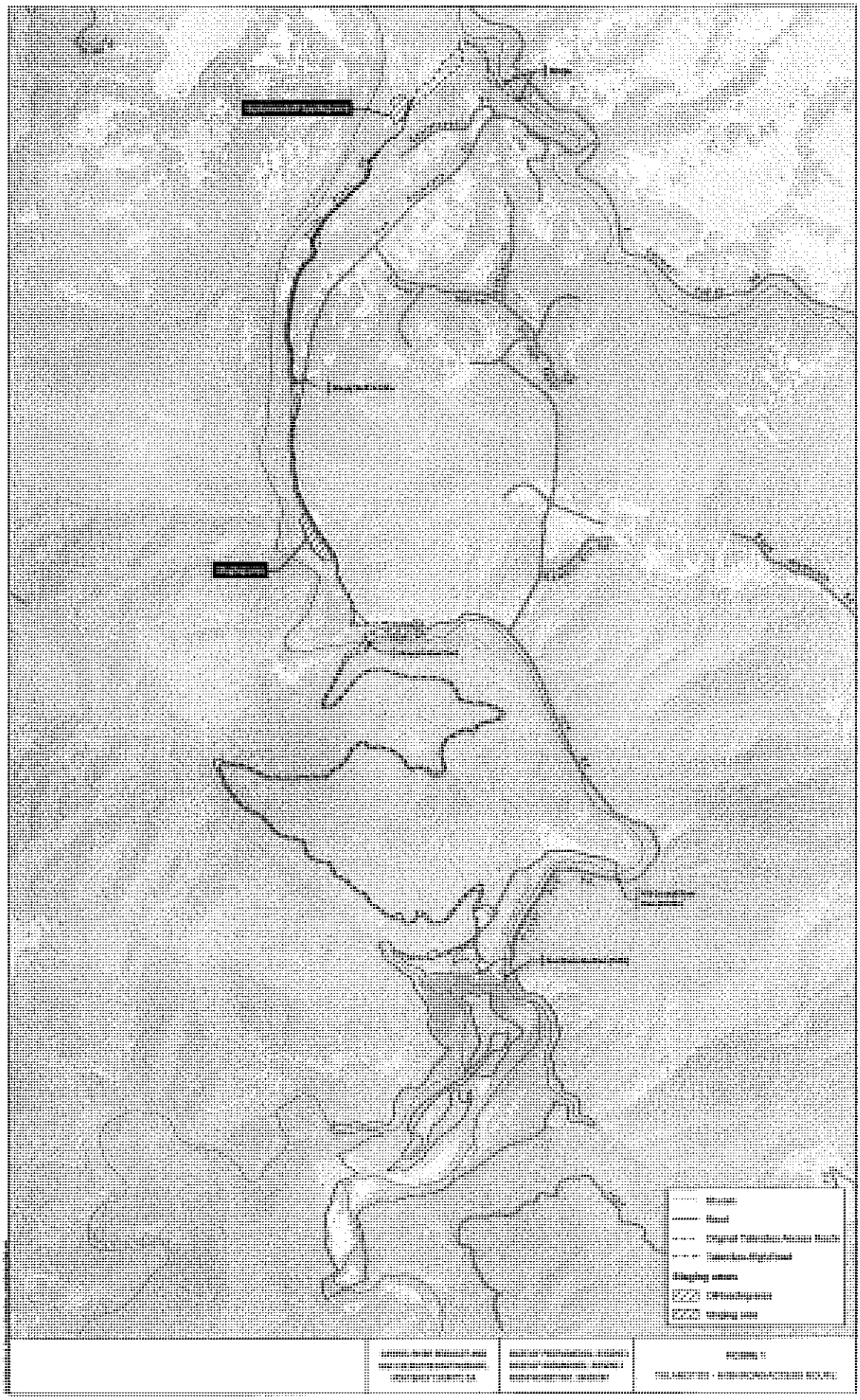
Pursuant to 14 California Code of Regulations Section 15162, CEQA requires preparation of a subsequent EIR if the lead agency determines that a project has undergone substantial changes which will require major revisions of the previous EIR due to the involvement of new significant environmental effects, a substantial increase in the severity of previously identified significant effects, or new mitigation measures that are considerably different from those analyzed in the previous EIR.

The preceding analysis and impact category evaluation suggests that the THR does meet these criteria. THR involves a minor relocation of the intersection with Carmel Valley Road, slight modifications to the alignment near Carmel Valley Road, and potentially the installation of a temporary bridge over the Sleepy Hollow Ford.

Pursuant to Section 15163, a supplement to the EIR is appropriate when there are new significant effects or mitigation being introduced, but project changes are otherwise minor. As described in Section 15164,an addendum is appropriate when changes to the project are minor and no new significant impacts would occur and no new mitigation is required. 5ince the Tularcitos Access Route was included in the FEIR/EIS and the changes due to the THR are minor, it is our belief that an addendum would be a sufficient CEQA level document.

The proposed THR would result in small changes in quantities of some of the impacts (e.g., minor changes in the amount of vegetation removed). As described above, none of the changes would result in new significant impacts or substantially increased impacts that were considered significant in the FEIR/EIS, nor is there need for new mitigation measures. Mitigation would be applied as described in the FEIR/EIS.

Table 2 summarizes the resource topics, impacts that were evaluated in the FEIR/EIS for the Tularcitos Access Route and whether mitigation already described in the FEIR/EIS is applicable to the changes as a result of the current design of the THR.



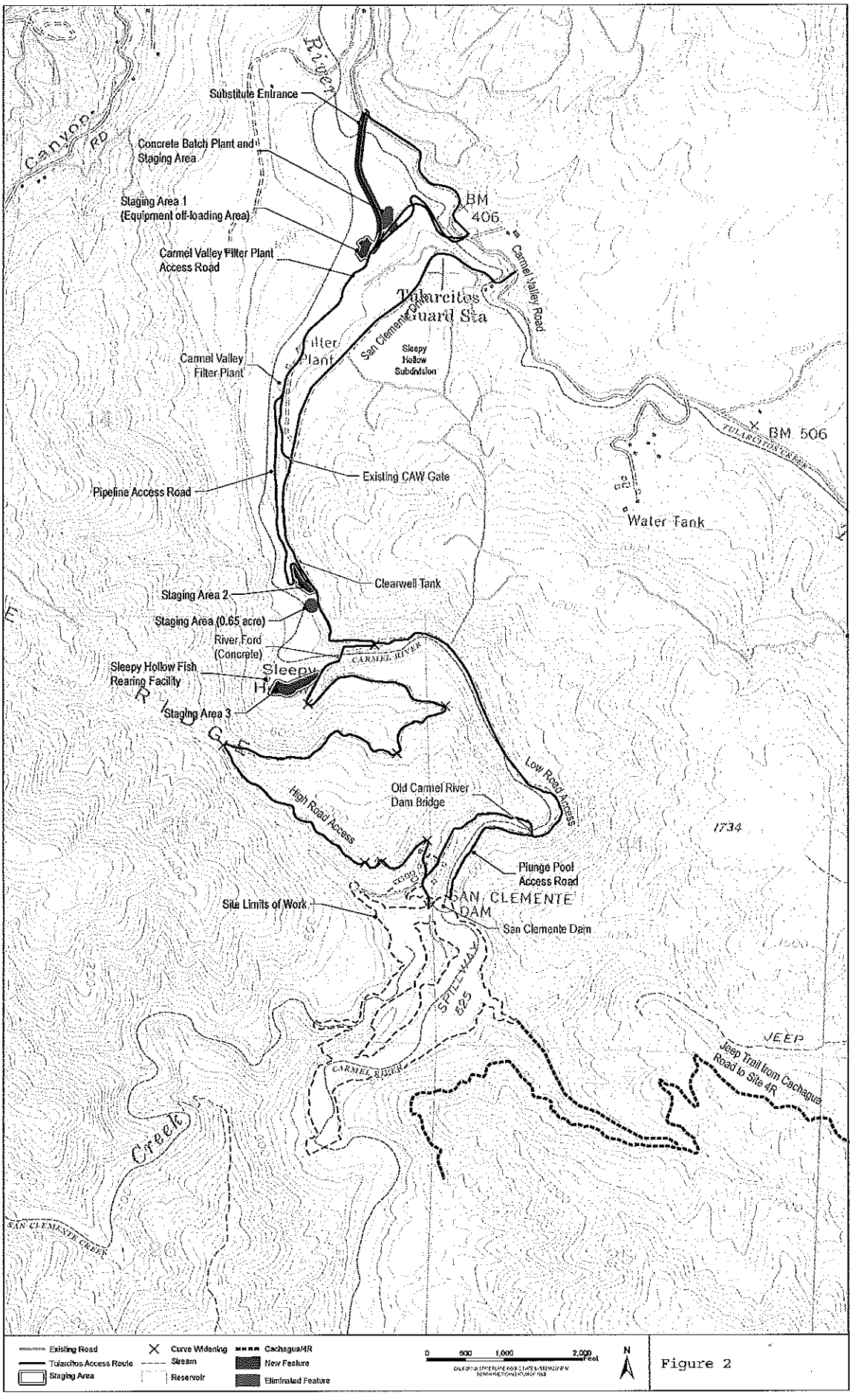

Substitute Entrance
Concrete Batch Plant and Staging Area
Staging Area 1 (Equipment off-loading Area)
Carmel Valley Filter Plant Access Road
Carmel Valley Filter Plant
Pipeline Access Road
Existing CAW Gate
Clearwell Tank
Staging Area 2
Staging Area (0.65 acre)
River Ford (Concrete)
Sleepy Hollow Fish Rearing Facility
Staging Area 3
Old Carmel River Dam Bridge
High Road Access
Low Road Access
Plunge Pool Access Road
Site Limits of Work
San Clemente Dam
Jeep Trail from Cachagua Road to Site 4R
BM 406
BM 506
Tularcitos Guard Sta
Sleepy Hollow Subdivision
Water Tank
Carmel Valley Road
San Clemente Drive
Canyon Rd
Creek
Existing Road
Tularcitos Access Route
Staging Area
Curve Widening
Stream
Reservoir
Cachagua/4R
New Feature
Eliminated Feature
0 500 1,000 2,000 Feet
N

Figure 2

Figure 3

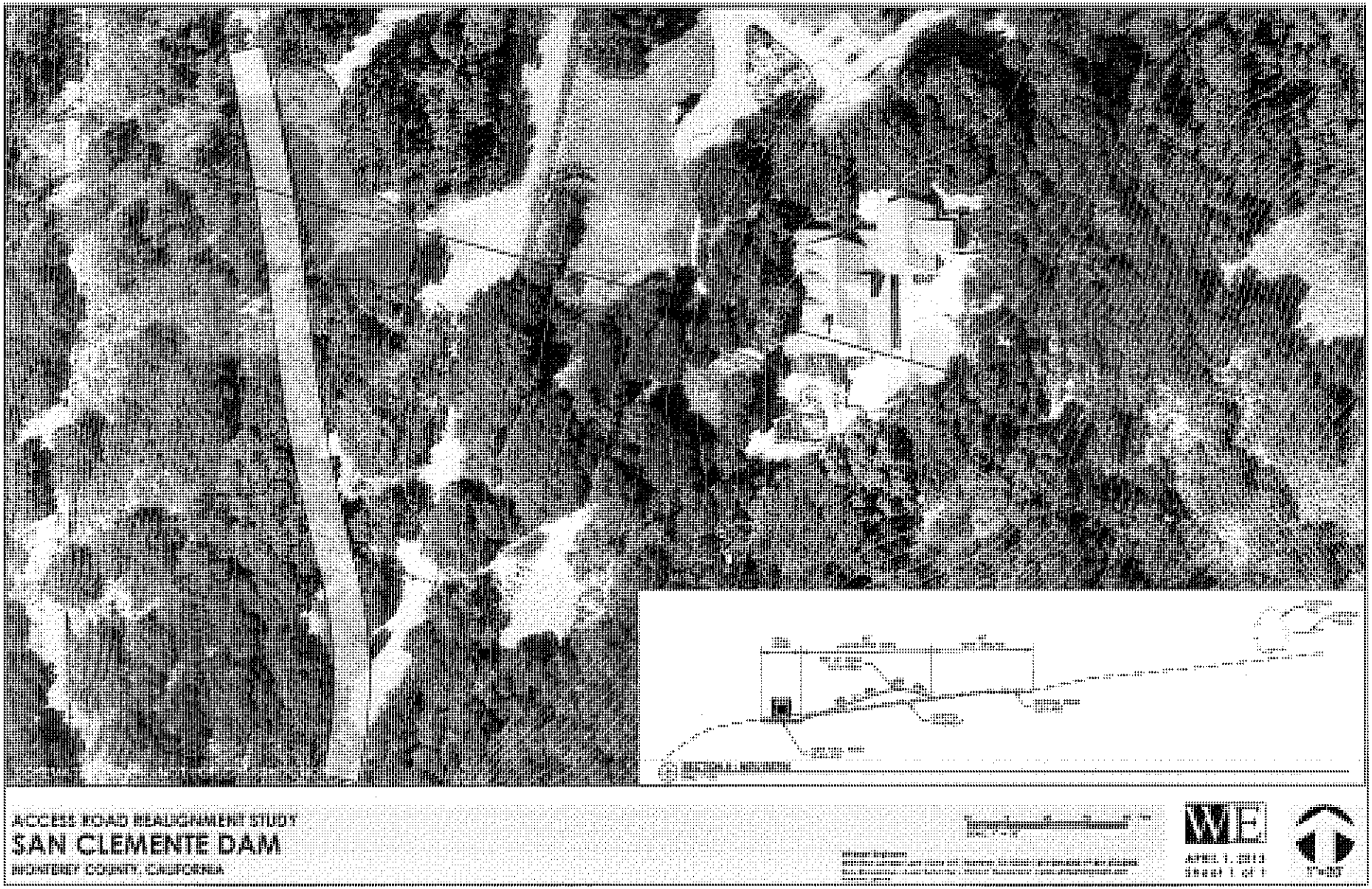

ACCESS ROAD REALIGNMENT STUDY
SAN CLEMENTE DAM
MONTEREY COUNTY, CALIFORNIA

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Geology and Soils	Erosion, Access route landsides	No	Yes, same mitigation would apply	FEIR covers slope stability/landslides for access routes. Analysis of soil erosion is applicable to any ground disturbing activities at the site, including access routes.
Hydrology and Water Resources	No specific impacts for road construction	No	NA	No impact. New bridges will not be within the OHWH of Carmel River or Tularcitos Creek and will not disrupt flow.
Water Quality	Sediment discharges, turbidity; accidental leaks and spills of toxic materials	No	Yes	Water quality impacts and mitigation from road construction were addressed in general terms, applied to all activities. The same mitigation measures would apply to THR, .
Fisheries	Loss of riparian vegetation, dewatering of Tularcitos creek channel during construction of bridge	No	Yes	Impacts associated with Tularcitos crossing would be similar to those described in 2008 FEIR. Mitigation would not change and would apply to installation of the temporary Sleepy Hollow ford bridge.

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Vegetation and Wildlife	Vegetation: Impacts to virgate eriastrum and blue oak along Tularcitos Access Wildlife: Potential impacts to several species including CRLF, woodrat, pallid bat.	No	Yes	Vegetation section of FEIR does not cover specific project features, though mention is made of avoiding eriastrum along the Tularcitos route and blue oak along the High Road. The 2008 EIR did not specifically quantify vegetation and wildlife impacts for individual project components such as the Tularcitos Access Road, but rather, lumped together total impacts for each project alternative. The types and quantities of impacts for the new alignment will be very similar to those resulting from the 2008 proposed road. Mitigation measures would be the same.
Wetlands	Permanent and temporary loss of wetlands and Other Waters.	No	Yes	The proposed alignment avoids impacts to wetlands and waters; there would be no new impacts to wetlands and waters due to this proposed alternative. Mitigation would remain the same for the project. But no mitigation would be needed specifically for the THR

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Air Quality	Construction emissions, project generated traffic	No	Yes	THR construction would be similar to the Tularcitos Access Route analyzed in the FEIR/EIS. The THR is not substantially larger or small than the original route. Thus air quality impacts would be similar. The THR is similar in length alignment to the Tularcitos Route assessed in the FEIR/EIS, Project generated traffic may be somewhat less than previously analyzed as fewer worker vehicles are expected. Air quality emissions are expetected the be the same or somewhat less than those previously analyzed in the FEIR/EIS. Overall project generated traffic emissions would decrease from use of Cachagua/Tassajara Road as addressed in the Supplemental 2012 EIR since vehicle miles travelled (VMT) would decrease.
Greenhouse Gas	Not addressed in 2008 FEIR/EIS as this was not a CEQA requirement at the time	No	NA	Greenhouse gas emissions from this change are likely to be similar for access road construction. Project generated traffic emissions would decrease due to the lower VMT

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Noise	Construction of Tularcitos access route and bridge; project generated traffic	No	Yes	Noise impacts were reassessed for the THR and results were nearly identical. Local residents will hear truck passbys during the construction periods, as was described in the FEIR/EIS.
Traffic	Sight distances, new intersection at Tularcitos Access Road; neighborhood quality of life	No	Yes	Conclusions regarding sight distances and LOS at the new THR intersection with Carmel Valley Road are the same as the FEIR/EIS. The current plan would use San Clemente Drive much less extensively than described in the FEIR/EIS. (occasional use versus being the primary access for the first year of construction)

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Cultural Resources	Ground disturbance and effects to NHRP eligible site (CA-MNT 33A and B)	No	Yes	The FEIR recommends complete avoidance of this site, but if not, the document describes mitigation including monitoring and recording of the site. No ground disturbance (e.g., excavation or grading) would occur near this site under the currently THR plan.
Aesthetics	Views of the Tularcitos Access Route	No	NA	The FEIR/EIS concluded some Sleepy Hollow and distant residents on hills north of Carmel Valley Road may view construction vehicles traveling along the road and may have views of the Concrete batch plant. View would be the same for the THR. Concrete batch plant is not part of the proposed project, but residents would potentially view construction vehicles traveling along the road and at the equipment offloading site. Views would mostly be through dense vegetation, though the offloading site is in a clearing. No mitigation was or is proposed.

TABLE 2. Summary Comparison of the Tularcitos Access Route from the DWR 2008 FEIR/EIS and the THR				
Topic	**Impacts Evaluated in FEIR for Proponents Proposed Project – Tularcitos Access Route**	**Would THR result in a New Significant Impact or substantially increased significant impact?**	**Is FEIR mitigation adequate to address THR changes?**	**Findings / Notes**
Recreation	No impacts	No	NA	Tularcitos route not a route used by recreational users.
Land Use	Impacts to land use not specific to the Access Route	No	NA	
Other Environmental Effects (employment, housing, population)	Impacts under this topic not specific to the Access Route	No	NA	The access route component would not affect population, housing, or employment.

URS

Memorandum

Date: January 14, 2013

To: Richard Olebe / Charyce Hatler

From: Bill Martin

Subject: **Fisheries**

No additional fisheries studies were conducted as part of the analysis for the Tularcitos access route options. Studies conducted for the 2008 EIR/EIS, and reported in Section 4.4 of the document, adequately characterized fish resources in both the Carmel River and Tularcitos Creek. The document acknowledged the presence of steelhead, as well as steelhead spawning and rearing habitat in Tularcitos Creek and the Carmel River.

Impact FI-1 (Access Route Improvements) in the Final EIR/EIS addressed the construction of a bridge over Tularcitos Creek and associated disturbance to riparian habitat for construction of the bridge. This section also described impacts of road construction along the Carmel River, including potential loss of riparian vegetation and potential water quality effects such as short term increases in turbidity during construction. Mitigation measures for these impacts were addressed and included reestablishment of riparian vegetation as identified in Appendix U (Botanical Resources Management Plan) of the FEIR/EIS and implementation of a Storm Water Pollution Prevention Plan (SWPPP) to protect water quality, as identified in Appendix K.

Impact FI-2 (Dewatering River Channels for Construction Purposes) in the FEIR/EIS described the impacts of dewatering a 100-foot section of the Tularcitos Creek Channel for bridge construction. Mitigation for this impact was to implement fish rescue and relocation efforts for the dewatered portion of the creek.

The currently proposed Tularcitos Access Route has two potential alternate entrance locations, but would ultimately result in the construction of just one bridge over Tularcitos Creek for the chosen alternative, similar to the original Tularcitos Access Route. Impacts would be similar at either location, and would be similar to that described in the FEIR/EIS, namely that approximately 50 feet of riparian cover would be removed to construct the bridge. Riparian habitat and cover is similar throughout this reach, based on observations made during site visits on December 18, 2012 and January 22, 2013, therefore impacts to riparian habitat would be similar regardless of the option chosen. Mitigation of the impacts would be the same as the original Tularcitos Access Route, as described in the FEIR/EIS. Disturbed riparian habitat would be replaced per guidance provided in the Botanical Resources Management Plan. Temporary water quality impacts from potentially increased turbidity for either bridge option would be the same as those described in the FEIR/EIS and would be mitigated in the same way: by implementation of the provisions in the SWPPP.

The bridge across Tularcitos Creek would clear-span the creek and would not have structures (pier walls or piles) located in the creekbed. No fill within the ordinary high water mark would occur. Therefore, there would be no temporary or permanent loss of fish habitat. Furthermore, no temporary dewatering of the creek would be necessary under the current proposed construction methods thus, impacts described in the FEIR/EIS for dewatering of Tularcitos Creek would be eliminated.

A temporary bridge would be placed across the Carmel River at the Sleepy Hollow Ford for access to the High Road. This crossing was not specifically discussed in the FEIR/EIS, although fishery resources were adequate assessed for this river reach by studies conducted for the original document. Approximately 50 feet of riparian vegetation would be removed on each bank for placement of this bridge. Disturbed riparian habitat would be replaced per guidance provided in the Botanical Resources Management Plan and no new or additional mitigation measures would be required. Temporary water quality effects would be mitigated though implementation of the provisions in the SWPPP. This temporary crossing would clear-span the river and would not result in any fill or placement of structures within the ordinary high water mark of the river. In addition, no dewatering or diversion of the river would be necessary for placement of this crossing.

Hatch Mott MacDonald

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February 20, 2013

MEMORANUMUM

TO: Bill Martin

FROM: Dan Takacs

SUBJECT: San Clemente Dam Retrofit Project – Tularcitos Access

This memorandum provides a traffic impact assessment of the proposed Tularcitos Access Route for the San Clemente Dam Seismic Safety Project. The proposed access plan would provide access to the project via a new access road connection from Carmel Valley Road.

The access road would intersect Carmel Valley Road at one of two alternative locations as shown on Exhibit 1. Access Road Alternative 1 West Access Alternative) would intersect Carmel Valley Road about 0.6 miles west of the Carmel Valley Road/San Clemente Drive intersection. Access Road Alternative 2 (East Access Alternative) would intersect Carmel Valley Road about 1,110 feet west of the Carmel Valley Road/San Clemente Drive intersection.

A Tularcitos Access Road was a component of the 2008 proponent's project. Traffic impacts associated with this access alternative were evaluated in the San Clemente Dam Seismic Safety Project Final Environmental Impact Report/Environmental Impact Statement, January 2008 in conjunction with the proponent's proposed project at that time. The entrance for the original Tularcitos Access Road was approximately 50 feet east of the currently proposed Alternative 2 (east access alternative). The impact analysis contained in this memorandum updates the traffic operational analysis documented in the 2008 FEIR for the proponent's project at that time to reflect the proponent's currently proposed project, Carmel River Reroute and Dam Removal.

A. Existing Traffic Volumes and Traffic Operations

Road Segment Daily Traffic Volumes and Levels of Service (LOS)

The existing daily traffic volumes and levels of service for various segments of Carmel Valley Road, Carmel Rancho Boulevard, Rio Road and SR 1 are shown on Exhibit 2. Based upon planning level threshold values, all segments of Carmel Valley Road, Carmel Rancho Boulevard and Rio Road operate at satisfactory levels of service. The segment of SR 1 north of Carmel Valley Road currently operates at LOS F based on the volume of daily traffic carried by this portion of the roadway. Appendix A provides a description of the level of service threshold volumes that were utilized to evaluate segment operating conditions based on daily traffic volumes.

Intersection Traffic Volumes and Levels of Service

AM and PM peak hour intersection volumes were collected at the intersection of Carmel Valley Road and San Clemente Drive on Thursday, January 14, 2013 from 7:00 am to 9:00 am and from 4:00 pm to 6:00 pm. The peak one-hour of traffic volume during these periods are shown on Exhibit 3 with the existing peak hour volumes documented in the 2008 EIR/EIS, which were collected in 2005. The 2013 volumes are about 30 percent less that the peak hour volumes utilized in the 2007/2008 environmental studies for the San Clemente Dam project. To provide a

reasonable worst-case analysis, the existing volumes utilized in the 2007/2008 environmental studies, which are higher than the volumes collected in 2013, were used for the analysis update.

The existing intersection volumes are shown on Exhibit 4 and the existing intersection levels of service are summarized on Exhibit 5. Traffic volumes for the Carmel Valley Road/Cachagua Road intersection are included on Exhibit 4 and the operations of the intersection are included in this study. The Cachagua Road intersection was evaluated in the 2008 environmental document and the intersection is included in this study for informational purposes.

Based on technical procedures documented in the 2000 Highway Capacity Manual (HCM), all study intersections currently operate at an overall LOS A during the AM and PM peak hours. The minor street approaches at the study intersections operate at LOS A or LOS B. Appendix B provides a description of the unsignalized intersection level of service values. The level of service calculation worksheets are contained in Appendix C. Cachagua Area Plan Policy 2.6 requires LOS C as an acceptable LOS within the planning area.

B. Project Trip Generation

The trip generation estimate for the project is based on the proponent's current estimate of project employees and truck deliveries. The project trip generation is summarized on Exhibits 6A and 6B. The assumptions used to develop the trip generation estimate are consistent with the assumptions used in the 2008 EIR/EIS and are as follows:

1. Each employee will generate four vehicle trips per day, two inbound and two outbound. This is a conservative estimate of daily trip generation for the project and accounts for miscellaneous employee and visitor trips.
2. Each employee arrives by personal vehicle with an average vehicle occupancy of 1.0 person per vehicle. This is a conservative estimate, as it does not account for carpooling by employees.

The peak daily trip generation for the project is projected to occur in October of the third construction year when 352 trips per day would be generated. On a passenger car equivalent (PCE) basis, the peak trip generation is projected to occur in June of the third construction year when 428 trips per day would be generated. The PCE adjustment accounts for the slower travel speeds of large trucks. The daily trip generation estimates do not account for the employee carpooling to and from the site. Therefore, the projections are conservative (high-side) projections of project trip generation.

Exhibits 6A and 6B also include estimates of the volume of peak hour trips that would be generated by the project. It was assumed that each employee would arrive by private vehicle during the peak one-hour of traffic on the adjacent street network during the AM peak period and leave during the peak one-hour of traffic on the adjacent street network during the PM peak period. In addition, an allowance equal to 15 percent of the total peak hour trip generation was assumed for vehicles entering and exiting the project site in the non-commute direction (outbound in the morning and inbound in the evening). For the June, Year 3 trip generation estimate, this results in an estimate of 14 outbound trips during the AM peak hour and 14 inbound trips during the PM peak hour and a total trip generation of 93 trips for the project during the AM and PM peak hours for June, Year 3. The allowance for non-commute direction trips accounts for drop-off trips and other miscellaneous trips that might occur during the peak commute periods.

The highest number of peak hour trips generated by the project will occur in October of year 3 when 104 vehicle trips would be generated during the AM and PM peak hours. Adjusted for passenger-car equivalencies, 110 PCE vehicle trips would be generated during the AM and PM peak hours in October of year 3. An operational analysis of peak hour traffic impacts to the study intersections is presented in Section C of this memorandum. The operational analysis utilizes the PCE adjusted peak hour trip generation estimates for the October, Year 3 condition to estimate impacts at the study intersections.

C. Existing Plus Project Conditions

Road Segment Traffic Operations

The daily traffic volumes for the study road segments for the peak daily trip generation (PCE adjusted) is shown on Exhibit 2. The daily trip generation for the peak month of construction activity, June, Year 3, was used for the analysis of project impacts to the study segments. A trip distribution pattern of 95 percent to the west and 5 percent to the east was assumed for the project, reflecting an expected predominant orientation of trips generated by the project to and from the west.

With the project generated traffic added to the existing segment daily volume, the existing road segment levels of service are not changed except for the SR 1 segment south of Carmel Valley Road that deteriorates from LOS C to LOS D. LOS D is an acceptable level of service for this segment of SR 1. The project would add traffic to the SR 1 segment north of Carmel Valley Road that operates at LOS F based on the segment level of service analysis using daily traffic volumes. The project would temporarily add traffic to the existing deficient section of SR 1 north of Carmel Valley Road and this would create a significant impact to this segment. The finding is consistent with the findings associated with the proponent's project that was analyzed in the 2008 EIR/EIS.

The mitigation described for the proponent's project in the 2008 EIR/EIS for TC-1: Road Segment Traffic Operations is recommended for the currently proposed project.

Intersection Traffic Operations

The project trip assignments during the AM and PM peak hours are shown on Exhibit 7. The Existing Plus Project peak hour traffic volumes are shown on Exhibit 8. The Existing Plus Project intersection levels of service are summarized on Exhibit 5.

With project trips added to the existing traffic volumes, the study intersections will continue to operate at an overall LOS A during the AM and PM peak hours. Traffic operations on the minor street approaches at the study intersections are forecast to operate at LOS A or B during the AM and PM peak hours. The project will not significantly impact traffic operations at the existing Carmel Valley Road intersections at San Clemente Drive and Cachagua Road. In addition, the intersection of the Tularcitos Access Route and Carmel Valley Road will also operate at a satisfactory level of service.

The distance between the two alternative locations where the new access route would intersect Carmel Valley Road is approximately one-half mile. There is one intersecting road between the two alternative access intersections, Vista Verde, which provides access to a rural subdivision. Based on the density of the subdivision and the opportunity to access the subdivision from an intersection located west of the West Access Alternative intersection with Carmel Valley Road,

traffic operations at the West Access Alternative intersection will be very similar to traffic operations at the East Access Alternative intersection. The volume of trips added to Carmel Valley Road at the Vista Verde intersection would not be at levels that would significantly change the level of traffic operations presented in Exhibit 5 for the Carmel Valley Road/Tularcitos (Project) Access Road. Therefore, the intersection of Carmel Valley Road and the proposed new access route to San Clemente Dam will operate at a satisfactory level of service with either access alternative route.

D. Carmel Valley Road/Tularcitos Access Route Intersection Design

At unsignalized intersections, adequate corner sight distance should be provided to allow a vehicle on the side road approach to enter the major road without requiring through traffic to radically alter their speed. According to Caltrans standards, at private road intersections, the minimum corner sight distance shall be equal to the stopping sight distance.

The Alternative 2/East Access Alternative intersection with Carmel Valley Road would be located about 880 feet west of San Clemente Drive. Based on the Caltrans Highway Design Manual, the horizontal alignment of Carmel Valley Road approaching from the east allows a comfortable vehicle speed of 25 to 30 mph. A design speed of 35 mph is appropriate for vehicles approaching from the east. The stopping sight distance for a design speed of 35 mph is 250 feet. The corner sight distance looking to the east from the proposed location of the access road approach to Carmel Valley Road is 380 feet, which exceeds the 250 foot stopping sight distance for the 35 mph design speed. Therefore, adequate corner sight distance would be provided on Carmel Valley Road for vehicles approaching from the east.

The horizontal alignment of Carmel Valley Road approaching from the west to the Alternative 2/East Access Alternative intersection on Carmel Valley Road allows a comfortable vehicle speed of 20 mph. A design speed of 25 mph is appropriate for vehicles approaching from the west. The stopping sight distance for a design speed of 25 mph is 150 feet. The corner sight distance looking to the west from the proposed location of the access road approach to Carmel Valley Road is 245 feet, which exceeds the 150 foot stopping sight distance for the 25 mph design speed. Therefore, adequate corner sight distance would be provided on Carmel Valley Road for vehicles approaching from the west.

The westerly access alternative would intersect Carmel Valley Road on the outside of a curve in Carmel Valley Road. A vehicle speed study performed at the location determined the 85th percentile speed at this location is 43 miles per hour in both directions. A design speed of 45 miles per hour is recommended for evaluating sight distances at this location. The stopping sight distance for a 45 mile per hour design speed is 360 feet. It is recommended that the West Access Alternative intersect Carmel Valley Road at a location that provides at least 360 feet of sight distance between a vehicle stopped on the road access approach to Carmel Valley Road and vehicles approaching from each direction on Carmel Valley Road. A sight distance of over 360 feet in both directions can be provided by locating the intersection of Carmel Valley Road and West Access Alternative at the center of the curve in Carmel Valley Road at that location.

Analysis of peak hour traffic operations indicates left-turn channelization would not be required on the westbound Carmel Valley Road approach to the new access road at either location. In addition, a right turn lane is not warranted on Carmel Valley Road on the eastbound approach to the access road. However, a right turn taper should be provided on the eastbound Carmel Valley Road approach to the new access road. Left-turn and right-turn channelization worksheets are presented in Appendix D.

The new intersection will be designed and constructed to meet Monterey County design standards. The mitigation described for the proponent's project in the 2008 EIR/EIS for Issue TC-5: New Intersections is recommended for the currently proposed access alternatives.

E. Traffic Safety on Carmel Valley Road

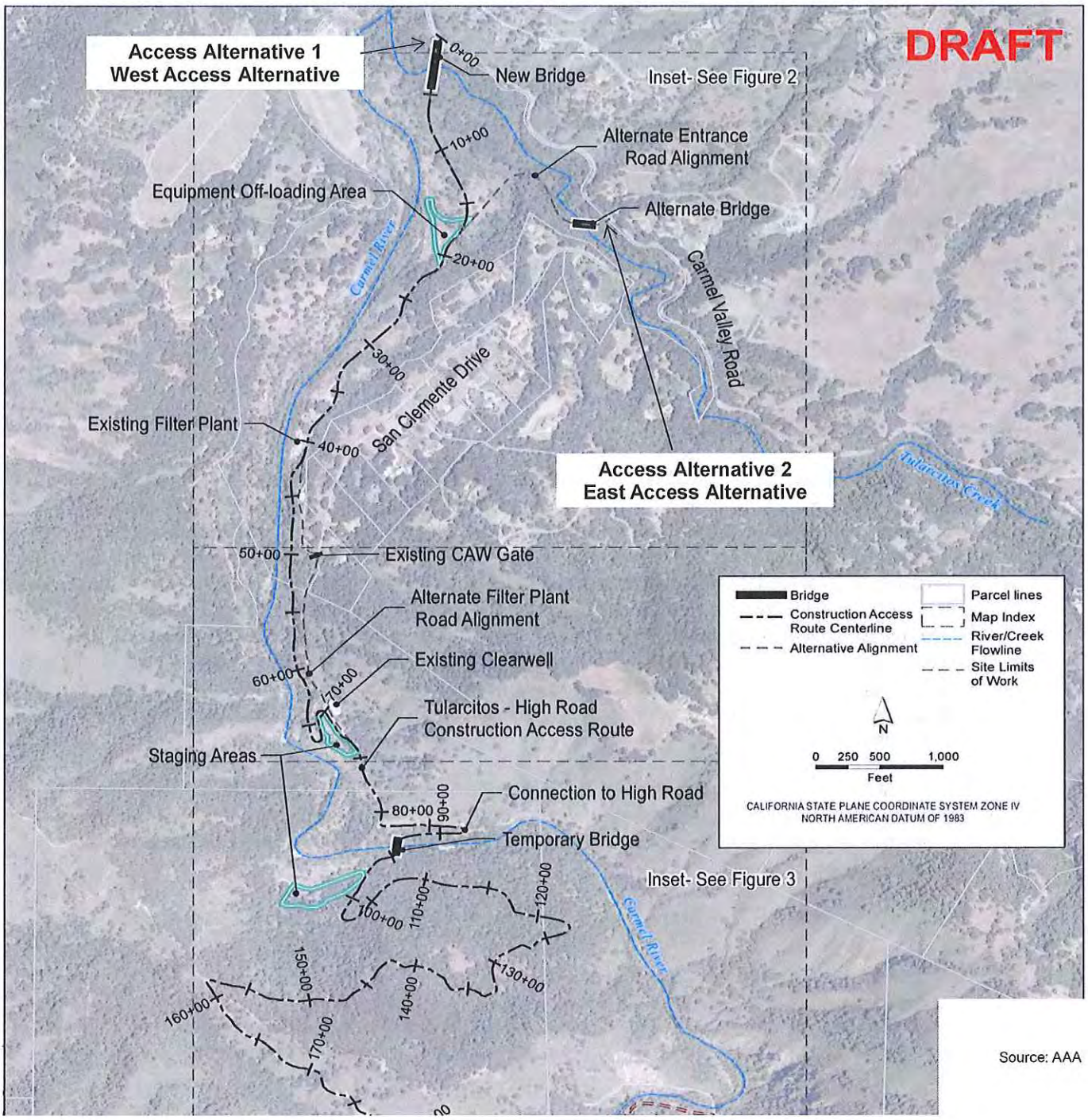
There is no change to the findings concerning traffic safety on Carmel Valley Road that are documented for the proponent's project in the 2008 EIR/EIS. The project will add construction traffic to Carmel Valley Road east of Carmel Valley Village. Carmel Valley Road east of Carmel Valley Village experiences accident rates that exceed rates that would be expected for similar types of roads. This segment of Carmel Valley Road has poor horizontal alignments, minimal shoulder width and narrow lanes in some locations.

The mitigation described for the proponent's project in the 2008 EIR/EIS for TC-3a: Traffic Safety on Carmel Valley Road is recommended for the currently proposed project.

F. Pavement Loadings

The proposed project would generate estimated 2,717 single-unit truck trips and 1,330 double trailer truck trips over the duration of the project. Over a 10-year design period, the project would generate an average of 01.56 truck trips per day, which would generate 2,724 equivalent single axle loads (ESALs). It is estimated that the segment of Carmel Valley Road near the project site is currently subject to the application of 107,736 ESALs over a 10-year time period. The existing truck loadings equate to a Traffic Index (TI) of 6.9. The TI is a measure of axle loadings that determines pavement structure requirements. With the project traffic loadings added to the existing ambient loadings, the total ESALs would increase to 110,588, which equates to a TI of 6.9. Because the TI does not change with the additional loadings generated by the project, the project would not have a significant impact to the pavement loadings on Carmel Valley Road east of Carmel Village.

The Cachagua Area Plan Policy CACH 2.5 requires projects that generate heavy vehicles to restore and maintain roads to their existing condition. The mitigation described for the proponent's project in the 2008 EIR/EIS for TC-7: Pavement Loadings is recommended for the currently proposed project.



Source: AAA

Hatch Mott MacDonald

Exhibits.xls1A-Project Location

EXHIBIT 1
PROJECT LOCATION

ROAD SEGMENT NO.	DESCRIPTION	CARMEL VALLEY MASTER PLAN LEVEL OF SERVICE THRESHOLD (24-HOUR VOLUME)	LEVEL OF SERVICE STANDARD	EXISTING VOLUMES ADT	EXISTING VOLUMES LOS	PROJECT TRAFFIC DISTRIBUTION	EXISTING PLUS PROPOSED PROJECT: PROPOSED PROJECT TRIPS	EXISTING PLUS PROPOSED PROJECT: TOTAL EXISTING + PROJECT VOLUMES	EXISTING PLUS PROPOSED PROJECT: LOS
A. CARMEL VALLEY ROAD									
	East of Cachagua	N/A	C	900	A	5%	21	921	A
1.	Holman - Cachagua	8,487	C	3,000	A	95%	407	3,407	A
2a.	Esquiline - Holman	6,835	C	3,500	A	95%	407	3,907	A
2b.	Ford - Esquiline	N/A	C	7,800	C	90%	385	8,185	C
3.	Laureles - Ford	11,600	D	10,200	C	80%	342	10,542	C
5.	Robinson - Laureles	12,752	D	10,800	C	80%	342	11,142	C
6.	Schulte - Robinson	15,499	D	13,300	D	80%	342	13,642	D
7.	Rancho San Carlos - Schulte	16,340	D	15,100	D	78.5%	336	15,436	D
8.	Rio - Rancho San Carlos	48,487	C	18,800	A	75%	321	19,121	A
9.	Carmel Rancho - Rio	51,401	C	23,200	B	75%	321	23,521	B
10.	Highway 1 - Carmel Rancho	27,839	E	22,200	B	70%	300	22,500	B
B. CARMEL RANCHO BOULEVARD									
11.	Carmel Valley - Rio	33,495	D	13,900	A	2.5%	11	13,911	A
C. RIO ROAD									
12.	Carmel Rancho - Highway 1	33,928	D	10,800	A	2.5%	11	10,811	A
D. SR 1									
	North of Carmel Valley Rd	N/A	D	35,000	F	70%	300	35,300	F
	South of Carmel Valley Rd	N/A	D	14,500	C	2.5%	11	14,511	D
E. CACHAGUA ROAD									
	Carmel Valley - Jeep Road	N/A	C	630	B	0.0%	0	630	B

Notes:

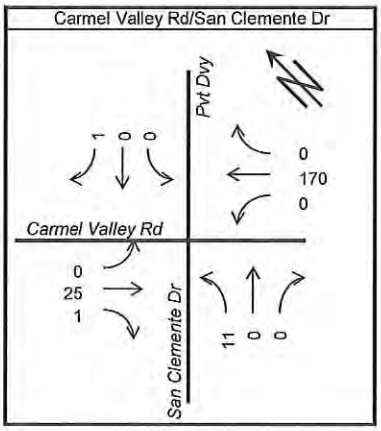
1. LOS: Level of Service.
2. ADT: Average Daily Traffic.
3. N/A: Not applicable.
4. Numbers in bold exceed Carmel Valley Road Master Plan threshold volume.
5. Source for existing volumes:
   Annual Average Daily Traffic, 2012, Monterey County Department of Public Works, Traffic Engineering
   Caltrans Traffic Data Branch Website, Traffic Volumes on State Highways, 2011.

EXHIBIT 2
ROAD SEGMENT VOLUMES AND LEVELS OF SERVICE

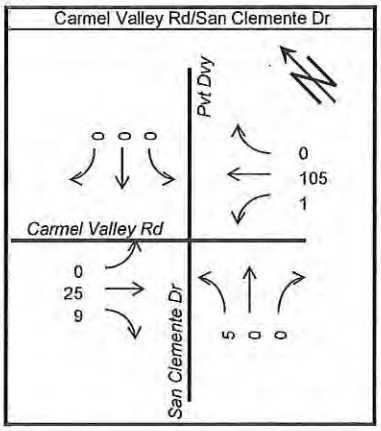
2008 FEIR VOLUMES
(March 23, 2005)

2013 VOLUMES
(January 24, 2013)

AM PEAK HOUR

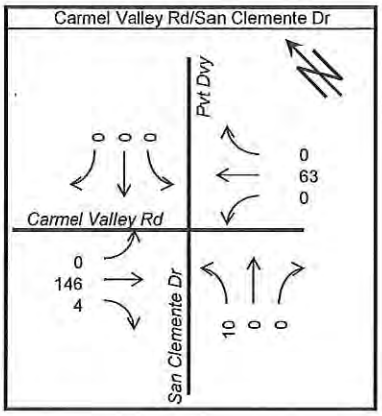


TOTAL VOL = 208

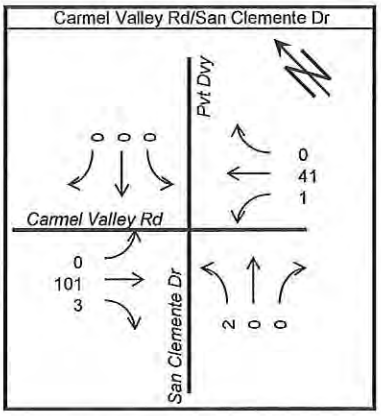


TOTAL VOL = 145

PM PEAK HOUR



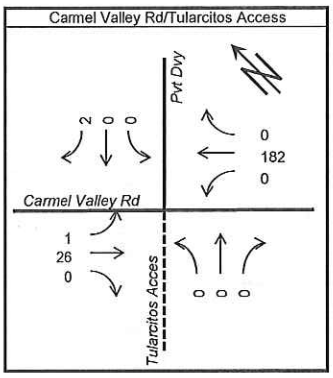
TOTAL VOL = 223

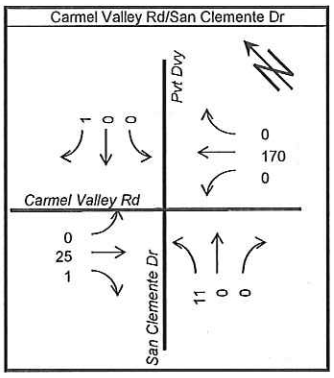


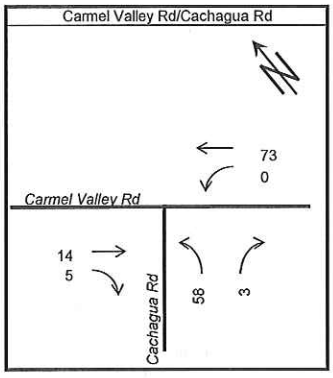
TOTAL VOL = 148

EXHIBIT 3
EXISTING PEAK HOUR VOLUME COMPARISON (2005 VERSUS 2013)

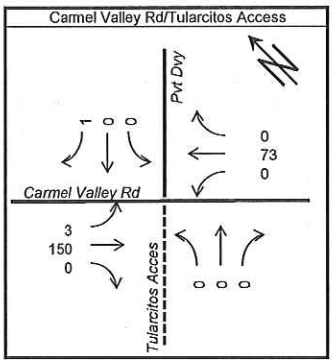
AM PEAK HOUR

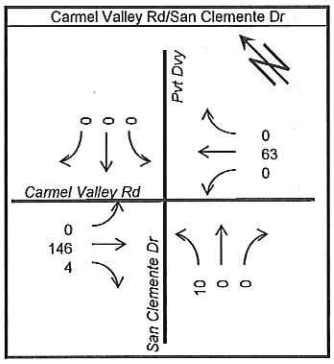






PM PEAK HOUR





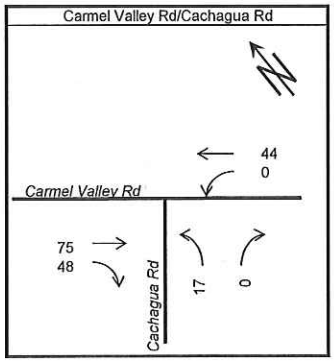


EXHIBIT 4
EXISTING PEAK HOUR
TRAFFIC VOLUME

	N-S Road	E-W Road	Existing Lane Configuration	Existing Intersection Control	LOS Standard	Existing Conditions				Existing Plus Proposed Project			
						AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
						Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Private Dvwy/ Tularcitos Access Road (Future)	Carmel Valley Road	EB 1-L/T WB 1-T/R SB 1-L/R	Stop Sign (SB) Northbound Approach Southbound Approach	C	0.1 - 9.5	A - A	0.1 - 8.7	A - A	0.9 11.1 9.5	A B A	3.2 11.3 8.7	A B A
2	San Clemente Drive	Carmel Valley Road	EB 1-L/T/R WB 1-L/T/R SB 1-L/T/R NB 1-L/T/R	Stop Sign (NB & SB) Northbound Approach Southbound Approach	C	0.6 10.3 9.4	A B A	0.4 9.9 0.0	A A A	0.6 10.3 9.4	A B A	0.4 10.0 0.0	A A A
3	Cachagua Road	Carmel Valley Road	EB 1-T/R WB 1-L/T NB 1-L/R	Stop Sign (NB) Northbound Approach Southbound Approach	C	3.7 9.3	A A	0.9 9.4	A A	3.6 9.4	A A	0.8 9.5	A A

Note 1. L, T, R = Left, Through, Right
2. NB, SB, EB, WB = Northbound, Southbound, Eastbound, Westbound

EXHIBIT 5
INTERSECTION
LEVELS OF SERVICE

SAN CLEMENTE DAM SEISMIC RETROFIT PROJECT TRIP GENERATION
(YEARS 1 - 3)

	Year 1												Year 2												Year 3											
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A. PROJECT DESCRIPTION																																				
Total Daily Personnel Onsite	0	0	0	0	0	0	0	27	32	29	29	32	16	2	2	16	81	73	55	61	63	63	2	2	2	2	2	16	43	79	71	71	80	87	28	2
Daily Matl Single Hauler Round Trips	0	0	0	0	0	0	0	1	1	9	9	1	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	1	1	12	12	1	1	1	1	0
Daily Matl & Mob/Demob Round Trips	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	2	1	3	1	1	1	0	0	0	0	0	1	1	2	1	1	1	1	3	0
B1. DAILY VEHICLE TRIPS																																				
Employee trips (One-way trips, 4 per employee)	0	0	0	0	0	0	0	108	128	116	116	128	64	8	8	64	324	292	220	244	252	252	8	8	8	8	8	64	170	316	284	284	320	348	112	8
Daily Matl Single Hauler (One-Way Trips)	0	0	0	0	0	0	0	2	2	18	18	2	2	0	0	2	2	2	2	2	2	2	0	0	0	0	0	2	2	24	24	2	2	2	2	0
Daily Matl & Mob/Demob (One-WayTrips)	0	0	0	0	0	0	0	2	2	2	2	2	2	0	0	2	4	2	6	2	2	2	0	0	0	0	0	2	2	4	2	2	2	2	6	0
Total One-Way Daily Trips	0	0	0	0	0	0	0	112	132	136	136	132	68	8	8	68	330	296	228	248	256	256	8	8	8	8	8	68	174	344	310	288	324	352	120	8
B2. DAILY PASSENGER CAR EQUIVALENCIES																																				
Employee trips (One-way trips, 4 per employee)	0	0	0	0	0	0	0	108	128	116	116	128	64	8	8	64	324	292	220	244	252	252	8	8	8	8	8	64	170	316	284	284	320	348	112	8
Daily Matl Single Hauler (One-Way Trips)	0	0	0	0	0	0	0	8	8	72	72	8	8	0	0	8	8	8	8	8	8	8	0	0	0	0	0	8	8	96	96	8	8	8	8	0
Daily Matl & Mob/Demob (One-WayTrips)	0	0	0	0	0	0	0	8	8	8	8	8	8	0	0	8	16	8	24	8	8	8	0	0	0	0	0	8	8	16	8	8	8	8	24	0
Total One-Way Daily Trips	0	0	0	0	0	0	0	124	144	196	196	144	80	8	8	80	348	308	252	260	268	268	8	8	8	8	8	80	186	428	388	300	336	364	144	8
C1. AM PEAK HOUR																																				
Employees	0	0	0	0	0	0	0	32	38	34	34	38	19	2	2	19	95	86	65	72	74	74	2	2	2	2	2	19	50	93	84	84	94	102	33	2
Trucks	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	0	2	0	2	0	1	2	0	0	0	0	0	0	0	4	4	0	0	2	2	0
Total	0	0	0	0	0	0	0	34	38	36	36	38	19	2	2	19	97	86	67	72	75	76	2	2	2	2	2	19	50	97	88	84	94	104	35	2
C2. AM PEAK HOUR (PCE Adjusted)																																				
Employees	0	0	0	0	0	0	0	32	38	34	34	38	19	2	2	19	95	86	65	72	74	74	2	2	2	2	2	19	50	93	84	84	94	102	33	2
Trucks	0	0	0	0	0	0	0	8	0	8	8	0	0	0	0	0	8	0	8	0	4	8	0	0	0	0	0	0	0	16	16	0	0	8	8	0
Total	0	0	0	0	0	0	0	40	38	42	42	38	19	2	2	19	103	86	73	72	78	82	2	2	2	2	2	19	50	109	100	84	94	110	41	2
D1. PM PEAK HOUR																																				
Employees	0	0	0	0	0	0	0	32	38	34	34	38	19	2	2	19	95	86	65	72	74	74	2	2	2	2	2	19	50	93	84	84	94	102	33	2
Trucks	0	0	0	0	0	0	0	2	0	2	2	0	0	0	0	0	2	0	2	0	1	2	0	0	0	0	0	0	0	4	4	0	0	2	2	0
Total	0	0	0	0	0	0	0	34	38	36	36	38	19	2	2	19	97	86	67	72	75	76	2	2	2	2	2	19	50	97	88	84	94	104	35	2
D2. PM PEAK HOUR (PCE Adjusted)																																				
Employees	0	0	0	0	0	0	0	32	38	34	34	38	19	2	2	19	95	86	65	72	74	74	2	2	2	2	2	19	50	93	84	84	94	102	33	2
Trucks	0	0	0	0	0	0	0	8	0	8	8	0	0	0	0	0	8	0	8	0	4	8	0	0	0	0	0	0	0	16	16	0	0	8	8	0
Total	0	0	0	0	0	0	0	40	38	42	42	38	19	2	2	19	103	86	73	72	78	82	2	2	2	2	2	19	50	109	100	84	94	110	41	2

Notes:

1. PCE - passenger car equivalinency
2. Figures in bold are the highest total daily & peak hour trip generation on a PCE unadjusted and PCE adjusted basis.

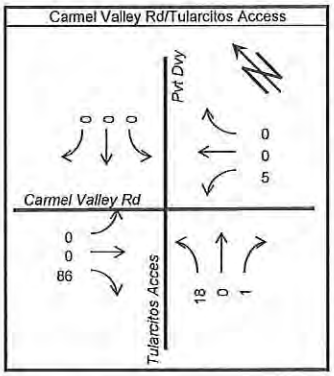
SAN CLEMENTE DAM SEISMIC RETROFIT PROJECT TRIP GENERATION
(YEARS 4 - 5)

	Year 4												Year 5											
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A. PROJECT DESCRIPTION																								
Total Daily Personnel Onsite	2	2	2	16	31	75	67	71	69	53	44	35	0	0	0	0	0	0	21	24	0	0	0	0
Daily Matl Single Hauler Round Trips	0	0	0	1	1	1	4	4	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0
Daily Matl & Mob/Demob Round Trips	0	0	0	1	1	2	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0
B1. DAILY VEHICLE TRIPS																								
Employee trips (One-way trips, 4 per employee)	8	8	8	64	122	300	268	284	274	212	176	140	0	0	0	0	0	0	84	96	0	0	0	0
Daily Matl Single Hauler (One-Way Trips)	0	0	0	2	2	2	8	8	2	2	2	2	0	0	0	0	0	0	2	2	0	0	0	0
Daily Matl & Mob/Demob (One-WayTrips)	0	0	0	2	2	4	2	2	2	2	2	2	0	0	0	0	0	0	2	2	0	0	0	0
Total One-Way Daily Trips	8	8	8	68	126	306	278	294	278	216	180	144	0	0	0	0	0	0	88	100	0	0	0	0
B2. DAILY PASSENGER CAR EQUIVALENCIES																								
Employee trips (One-way trips, 4 per employee)	8	8	8	64	122	300	268	284	274	212	176	140	0	0	0	0	0	0	84	96	0	0	0	0
Daily Matl Single Hauler (One-Way Trips)	0	0	0	8	8	8	32	32	8	8	8	8	0	0	0	0	0	0	8	8	0	0	0	0
Daily Matl & Mob/Demob (One-WayTrips)	0	0	0	8	8	16	8	8	8	8	8	8	0	0	0	0	0	0	8	8	0	0	0	0
Total One-Way Daily Trips	8	8	8	80	138	324	308	324	290	228	192	156	0	0	0	0	0	0	100	112	0	0	0	0
C1. AM PEAK HOUR																								
Employees	2	2	2	19	36	88	79	84	81	62	52	41	0	0	0	0	0	0	25	28	0	0	0	0
Trucks	0	0	0	0	0	0	2	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	2	19	36	88	81	86	81	64	54	41	0	0	0	0	0	0	25	28	0	0	0	0
C2. AM PEAK HOUR (PCE Adjusted)																								
Employees	2	2	2	19	36	88	79	84	81	62	52	41	0	0	0	0	0	0	25	28	0	0	0	0
Trucks	0	0	0	0	0	0	8	8	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	2	19	36	88	87	92	81	70	60	41	0	0	0	0	0	0	25	28	0	0	0	0
D1. PM PEAK HOUR																								
Employees	2	2	2	19	36	88	79	84	81	62	52	41	0	0	0	0	0	0	25	28	0	0	0	0
Trucks	0	0	0	0	0	0	2	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	2	19	36	88	81	86	81	64	54	41	0	0	0	0	0	0	25	28	0	0	0	0
D2. PM PEAK HOUR (PCE Adjusted)																								
Employees	2	2	2	19	36	88	79	84	81	62	52	41	0	0	0	0	0	0	25	28	0	0	0	0
Trucks	0	0	0	0	0	0	8	8	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	2	19	36	88	87	92	81	70	60	41	0	0	0	0	0	0	25	28	0	0	0	0

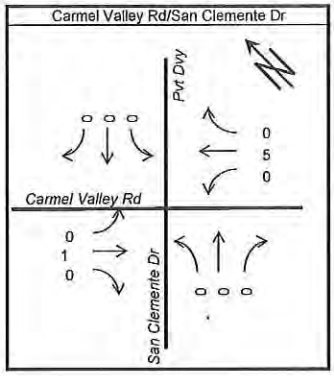
Notes:

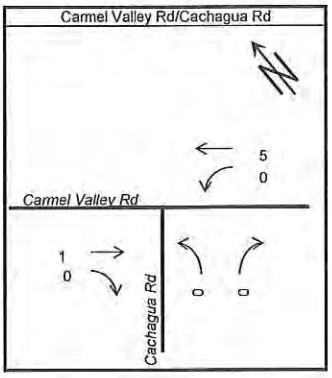
1. PCE - passenger car equivalinency

AM PEAK HOUR

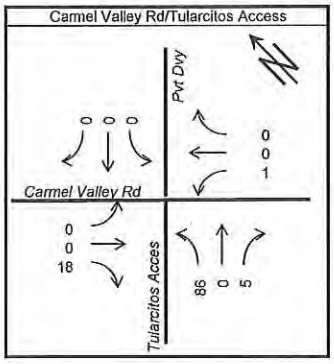


IN= 91
OUT= 19

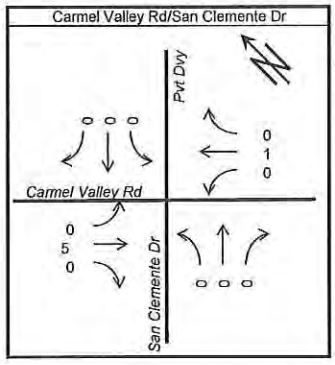




PM PEAK HOUR



IN= 19
OUT= 91



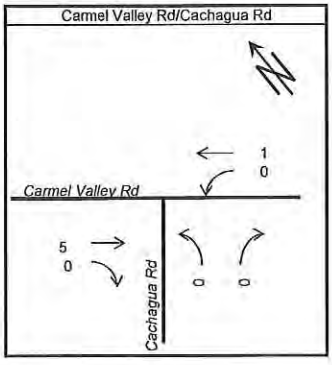
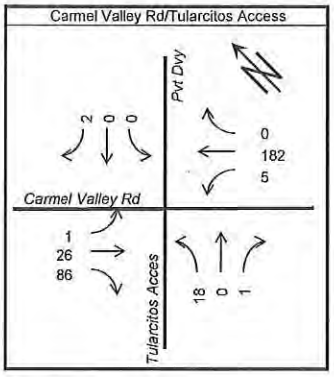
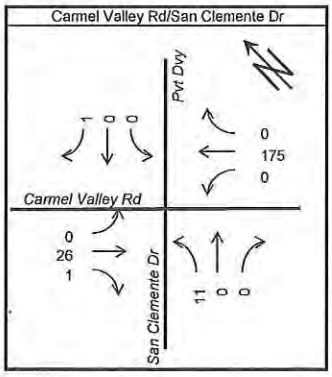
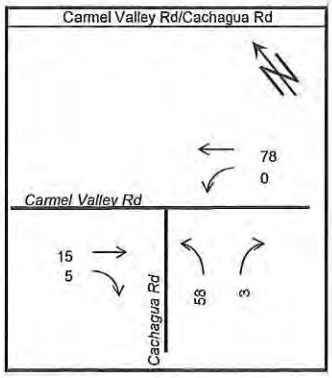


EXHIBIT 7
PROJECT AM AND PM PEAK HOUR TRAFFIC ASSIGNMENT

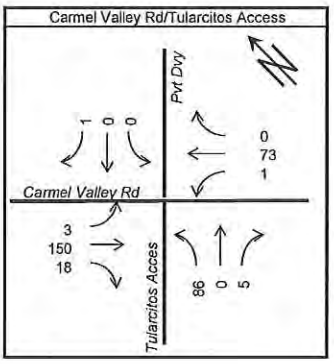
AM PEAK HOUR

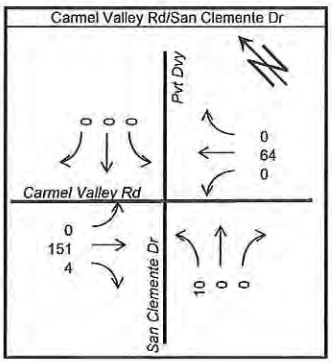






PM PEAK HOUR





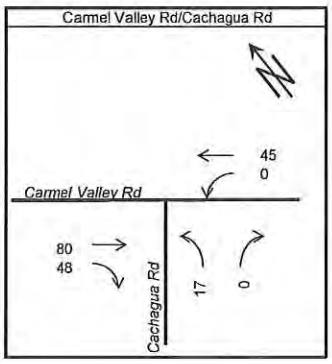


EXHIBIT 8
EXISTING PLUS PROJECT
PEAK HOUR
TRAFFIC VOLUME

APPENDIX
LEVEL OF SERVICE THRESHOLD VOLUMES FOR VARIOUS ROADWAY TYPES
TOTAL DAILY VOLUMES IN BOTH DIRECTIONS (ADT)

ROADWAY TYPE	CODE	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
10-Lane Freeway	10F	71,000	110,000	154,000	178,000	202,000	>202,000
8-Lane Freeway	8F	56,000	88,000	124,000	151,000	162,000	>162,000
6-Lane Freeway	6F	43,000	66,000	94,000	113,000	122,000	>122,000
8-Lane Expressway	8E	35,000	54,000	75,000	90,000	98,000	>98,000
6-Lane Expressway	6E	28,000	42,000	56,000	67,000	74,000	>74,000
4-Lane Freeway	4F	29,000	44,000	63,000	77,000	82,000	>82,000
8-Lane Divided Arterial (w/ left-turn lane)	9	40,000	47,000	54,000	61,000	68,000	>68,000
6-Lane Divided Arterial (w/ left-turn lane)	7	32,000	38,000	43,000	49,000	54,000	>54,000
4-Lane Expressway	4E	18,000	27,000	36,000	45,000	50,000	>50,000
4-Lane Divided Arterial (w/ left-turn lane)	5	22,000	25,000	29,000	32,500	36,000	>36,000
4-Lane Undivided Arterial (no left-turn lane)	4	16,000	19,000	22,000	24,000	27,000	>27,000
2-Lane Rural Highway	2R	4,000	8,000	12,000	17,000	25,000	>25,000
2-Lane Arterial (w/ left-turn lane)	3	11,000	12,500	14,500	16,000	18,000	>18,000
2-Lane Collector	2	6,000	7,500	9,000	10,500	12,000	>12,000
2-Lane Local	1	1,200	1,400	1,600	1,800	2,000	>2,000
1-Lane Freeway Diamond Ramp	1D	11,000	12,800	14,700	16,500	18,300	>18,300
2-Lane Freeway Diamond Ramp	2D	22,000	25,600	29,400	33,000	36,600	>36,600
1-Lane Freeway Loop Ramp	1L	9,000	10,500	12,000	13,500	15,000	>15,000
2-Lane Freeway Loop Ramp	2L	16,000	18,700	21,300	24,000	26,700	>26,700

Notes:

1. The above threshold volumes for preliminary planning purposes only. If available, the results of detailed level of service analyses will typically have priority over the levels of service derived from this table. In that case this table can be used by the analyst for providing additional considerations for recommending the appropriate general roadway type for the specific condition being analyzed.
2. All above facilities assume a 60%/40% peak hour directional split. All above facilities assume peak hour representing approximately 10% of the Average Daily Traffic (ADT), except for mainline freeway facilities, which assume peak hour representing 9% of the Average Daily Traffic (ADT).
3. Based on *Highway Capacity Manual*, Transportation Research Board, 2000.
4. Freeway thresholds are consistent with conditions utilizing a .95 peak hour factor, with 2% trucks and slightly over a one-mile average interchange spacing.
5. Expressways are consistent with the average of a multi-lane highway (with no signals) and Class 1 arterial (with an average signal spacing of 0.8 signals per mile and a .45 G/C ratio).
6. Arterial thresholds are consistent with the average of Class 1 and Class 2 arterials with an assumed signal density of two signals per mile. This assumes a divided arterial with left-turn lanes. Thresholds for four-lane undivided arterials assume approximately three-fourths the capacity of a four-lane divided arterial due to the impedance in traffic flow resulting from left-turning vehicles waiting in the inside through lane, thus significantly reducing the capacity of the roadway.
7. Rural highways are generally consistent with the *2000 Highway Capacity Manual* rural highway, assuming 8% trucks, 4% RV's, 20% no-passing, and level terrain. The greatest difference is that it assumes a maximum capacity (upper end of LOS E) of 25,000 rather than the 28,000 calculated using the new *Highway Capacity Manual*.
8. Two-lane collectors assume approximately three-fourths of the capacity of a two-lane arterial with left-turn lanes. This is based on the assumption that left-turn channelization is not provided on a two-lane collector.
9. Local street level of service thresholds are based upon "Neighborhood Traffic Related Quality-of-Life Considerations" which assumes a standard suburban neighborhood, 40-foot roadway width, and 25 mile per hour speed limit with normal speed violation rates.
10. Capacities for Diamond Ramps and Loop Ramps may be slightly higher or lower than the planning level capacities indicated above. The *2000 Highway Capacity Manual* (2000 HCM) states that the capacity of a one-lane diamond to be 2,200 vehicles per hour (vph), and 1,800 vph for a small radius loop ramp. Two-lane freeway ramp capacities are estimated in the 2000 HCM to be 4,400vph for a two-lane diamond, and 3,200vph 20 for a two-lane small radius loop. Varying intermediate capacities are provided for incremental conditions between these extremes. Capacities given for each service level assume the same level of service for the adjoining merging roadway as well as level of service being determined by volume-to-capacity and not attainable speed. Level of service will be controlled by freeway level of service if worse than ramp. Mitigations of level of service deficiencies may include the addition of a lane on the freeway ramp, the addition of an auxiliary lane on the freeway mainline, the addition of approach lanes at the ramp junction with the local intersecting street, and/or geometric modifications to improve the efficiency of the ramp itself or its termini. The appropriate mitigation should be determined on a case-by-case basis, considering freeway main line volumes and weaving, the extent that the freeway ramp volume exceeds the above planning thresholds, and the level of service of the ramp intersection with the local street.
11. All volumes are approximate and assume ideal roadway characteristics.

APPENDIX B

LEVEL OF SERVICE (LOS) DESCRIPTION
UNSIGNALIZED INTERSECTIONS WITH TWO-WAY STOP CONTROL (TWSC)

TWSC intersections are widely used and stop signs are used to control vehicle movements at such intersections. At TWSC intersections, the stop-controlled approaches are referred to as the minor street approaches; they can be either public streets or private driveways. The intersection approaches that are not controlled by stop signs are referred to as the major street approaches. A three-leg intersection is considered to be a standard type of TWSC intersection if the single minor street approach (i.e. the stem of the T configuration) is controlled by a stop sign. Three-leg intersections where two of the three approaches are controlled by stop signs are a special form of unsignalized intersection control.

At TWSC intersections, drivers on the controlled approaches are required to select gaps in the major street flow through which to execute crossing or turning maneuvers on the basis of judgement. In the presence of a queue, each driver on the controlled approach must use some time to move into the front-of-queue position and prepare to evaluate gaps in the major street flow. Capacity analysis at TWSC intersections depends on a clear description and understanding of the interaction of drivers on the minor or stop-controlled approach with drivers on the major street. Both gap acceptance and empirical models have been developed to describe this interaction.

Thus, the capacity of the controlled legs is based on three factors:

- the distribution of gaps in the major street traffic stream,;
- driver judgement in selecting gaps through which to execute the desired maneuvers; and
- the follow-up time required by each driver in a queue.

The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incident, control, traffic or geometric delay. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation and referred to as level of service.

LEVEL OF SERVICE (LOS) CRITERIA FOR TWSC INTERSECTIONS
(Reference Highway Capacity Manual 2000)

Level of Service	Control Delay (seconds / vehicle)
A	**0 - 10**
B	**>10 - 15**
C	**>15 - 25**
D	**>25 - 35**
E	**>35 - 50**
F	**>50**

APPENDIX C
INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Carmel Valley Rd/Tularcitos Access

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: A[9.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 0 0 1			0 1 0 0 0			0 0 1 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	2	1	26	0	0	182	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	2	1	26	0	0	182	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
PHF Volume:	0	0	0	0	0	3	1	34	0	0	239	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	3	1	34	0	0	239	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	239	239	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	804	1339	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	804	1339	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.5	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			9.5			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Carmel Valley Rd/Tularcitos Access

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: A[8.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0		0 0 0	0 1		0 1	0 0 0		0 0	1 0 0	
Volume Module:												
Base Vol:	0	0	0	0	0	1	3	150	0	0	73	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	1	3	150	0	0	73	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	0	0	0	0	1	4	179	0	0	87	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	1	4	179	0	0	87	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	87	87	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	977	1522	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	977	1522	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			8.7			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Carmel Valley Rd/Tularcitos Access

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[11.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	1	0 0 1!	0	0	0 1	0	0 0
Volume Module:												
Base Vol:	18	0	1	0	0	2	1	26	86	5	182	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	0	1	0	0	2	1	26	86	5	182	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
PHF Volume:	24	0	1	0	0	3	1	34	113	7	239	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	24	0	1	0	0	3	1	34	113	7	239	0
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	xxxxx	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	347	346	91	xxxx	xxxx	239	239	xxxx	xxxxx	147	xxxx	xxxxx
Potent Cap.:	611	580	972	xxxx	xxxx	804	1339	xxxx	xxxxx	1447	xxxx	xxxxx
Move Cap.:	606	577	972	xxxx	xxxx	804	1339	xxxx	xxxxx	1447	xxxx	xxxxx
Volume/Cap:	0.04	0.00	0.00	xxxx	xxxx	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.5	7.7	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	619	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		11.1			9.5			xxxxxx			xxxxxx	
ApproachLOS:		B			A			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 Carmel Valley Rd/Tularcitos Access

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: B[11.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 1			0 0 1! 0 0			0 1 0 0 0		
Volume Module:												
Base Vol:	86	0	5	0	0	1	3	150	18	1	73	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	0	5	0	0	1	3	150	18	1	73	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	102	0	6	0	0	1	4	179	21	1	87	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	102	0	6	0	0	1	4	179	21	1	87	0
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	xxxxx	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	286	286	189	xxxx	xxxx	87	87	xxxx	xxxxx	200	xxxx	xxxxx
Potent Cap.:	670	627	858	xxxx	xxxx	977	1522	xxxx	xxxxx	1384	xxxx	xxxxx
Move Cap.:	668	625	858	xxxx	xxxx	977	1522	xxxx	xxxxx	1384	xxxx	xxxxx
Volume/Cap:	0.15	0.00	0.01	xxxx	xxxx	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7	7.4	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	676	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:		11.3			8.7			xxxxxx			xxxxxx	
ApproachLOS:		B			A			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Carmel Valley Rd/San Clemente Dr

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[10.3]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	0	0	0		0	0	0	0	1		0	0	0	1	0		0	0	1	0	0	
Volume Module:																								
Base Vol:	11		0		0		0		0		1		0		25		1		0		170		0	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	11		0		0		0		0		1		0		25		1		0		170		0	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.76		0.76		0.76		0.76		0.76		0.76		0.76		0.76		0.76		0.76		0.76		0.76	
PHF Volume:	14		0		0		0		0		1		0		33		1		0		224		0	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	14		0		0		0		0		1		0		33		1		0		224		0	
Critical Gap Module:																								
Critical Gp:	7.1	xxxx	xxxxx	xxxxx	xxxx		6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx											
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx		3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx											
Capacity Module:																								
Cnflict Vol:	258	xxxx	xxxxx	xxxx	xxxx		224	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx											
Potent Cap.:	699	xxxx	xxxxx	xxxx	xxxx		821	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx											
Move Cap.:	698	xxxx	xxxxx	xxxx	xxxx		821	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx											
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx		0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx											
Level Of Service Module:																								
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx		0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx											
Control Del:	10.3	xxxx	xxxxx	xxxxx	xxxx		9.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx											
LOS by Move:	B	*	*	*	*		A	*	*	*	*	*	*											
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*												
ApproachDel:	10.3			9.4			xxxxxx			xxxxxx														
ApproachLOS:	B			A			*			*														

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Carmel Valley Rd/San Clemente Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A[9.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	0 0	0	0 0	1! 0	0	0 0	0 1	0	0 0	1 0	0
Volume Module:												
Base Vol:	10	0	0	0	0	0	0	146	4	0	63	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	0	0	0	0	0	146	4	0	63	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	12	0	0	0	0	0	0	174	5	0	75	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	12	0	0	0	0	0	0	174	5	0	75	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	xxxxx	7.1	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	251	xxxx	xxxxx	251	254	75	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	742	xxxx	xxxxx	706	653	992	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	742	xxxx	xxxxx	706	653	992	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		9.9			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		A			*			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Carmel Valley Rd/San Clemente Dr

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[10.3]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
Volume Module:																				
Base Vol:	11	0	0	0	0	1	0	26	1	0	175	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	11	0	0	0	0	1	0	26	1	0	175	0								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76								
PHF Volume:	14	0	0	0	0	1	0	34	1	0	230	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	14	0	0	0	0	1	0	34	1	0	230	0								
Critical Gap Module:																				
Critical Gp:	7.1	xxxx	xxxxx	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Capacity Module:																				
Cnflict Vol:	266	xxxx	xxxxx	xxxx	xxxx	230	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Potent Cap.:	691	xxxx	xxxxx	xxxx	xxxx	814	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Move Cap.:	690	xxxx	xxxxx	xxxx	xxxx	814	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx								
Level Of Service Module:																				
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Control Del:	10.3	xxxx	xxxxx	xxxxx	xxxx	9.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
LOS by Move:	B	*	*	*	*	A	*	*	*	*	*	*								
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*								
ApproachDel:	10.3			9.4			xxxxxx			xxxxxx										
ApproachLOS:	B			A			*			*										

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Carmel Valley Rd/San Clemente Dr

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A[10.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0	0 0	0	0 1! 0	0	0	0 0 1	0	0	0 1	0 0
Volume Module:												
Base Vol:	10	0	0	0	0	0	0	151	4	0	64	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	0	0	0	0	0	151	4	0	64	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	12	0	0	0	0	0	0	180	5	0	76	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	12	0	0	0	0	0	0	180	5	0	76	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	xxxxx	7.1	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	258	xxxx	xxxxx	258	261	76	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	735	xxxx	xxxxx	699	647	991	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	735	xxxx	xxxxx	699	647	991	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		10.0			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		A			*			*			*	

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Carmel Valley Rd/Cachagua Rd

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: A[9.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0 0		0 0 0	0 0		0 0 0	1 0		0 0 1	0 0	
Volume Module:												
Base Vol:	58	0	3	0	0	0	0	14	5	0	73	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	3	0	0	0	0	14	5	0	73	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	69	0	4	0	0	0	0	17	6	0	87	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	69	0	4	0	0	0	0	17	6	0	87	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	107	107	20	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	896	787	1064	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	896	787	1064	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.08	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	903	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	*	*	*	*	*	*
ApproachDel:		9.3		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Carmel Valley Rd/Cachagua Rd

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: A[9.4]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	0	0 0	0	0	0	0 0	0	0	0	1 0	0	0	1	0 0
Volume Module:																
Base Vol:	17	0	0		0	0	0		0	75	48		0	44	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	17	0	0		0	0	0		0	75	48		0	44	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.86	0.86	0.86		0.86	0.86	0.86		0.86	0.86	0.86		0.86	0.86	0.86	
PHF Volume:	20	0	0		0	0	0		0	87	56		0	51	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	20	0	0		0	0	0		0	87	56		0	51	0	
Critical Gap Module:																
Critical Gp:	6.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
FollowUpTim:	3.5	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	166	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	829	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	829	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	0.02	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:		9.4				xxxxxx				xxxxxx				xxxxxx		
ApproachLOS:		A				*				*				*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Carmel Valley Rd/Cachagua Rd

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[9.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 0 1 0			0 0 1 0 0		
Volume Module:												
Base Vol:	58	0	3	0	0	0	0	15	5	0	78	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	0	3	0	0	0	0	15	5	0	78	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	69	0	4	0	0	0	0	18	6	0	93	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	69	0	4	0	0	0	0	18	6	0	93	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	114	114	21	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	888	780	1063	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	888	780	1063	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.08	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	895	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	*	*	*	*	*	*
ApproachDel:		9.4		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		A		*			*			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Carmel Valley Rd/Cachagua Rd

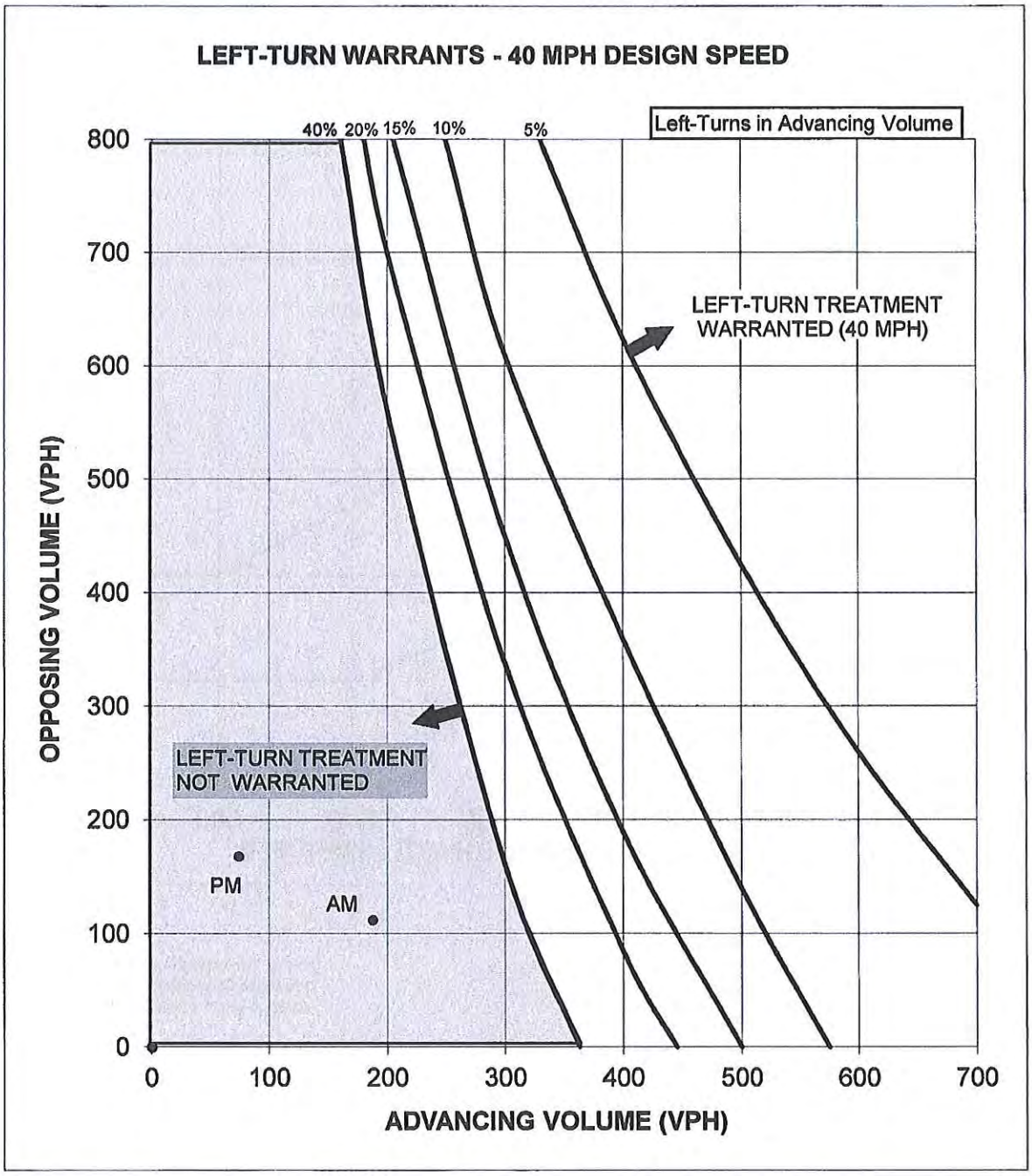
Average Delay (sec/veh): 0.8 Worst Case Level Of Service: A[9.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	0 0		0 0	0 0 0		0 0	0 1 0		0 0	1 0 0	
Volume Module:												
Base Vol:	17	0	0	0	0	0	0	80	48	0	45	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	0	0	0	0	0	0	80	48	0	45	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	20	0	0	0	0	0	0	93	56	0	52	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	20	0	0	0	0	0	0	93	56	0	52	0
Critical Gap Module:												
Critical Gp:	6.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	3.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	173	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	821	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	821	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		9.5			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		A			*			*			*	

Note: Queue reported is the number of cars per lane.

APPENDIX D
LEFT-TURN AND RIGHT-TURN WARRANT WORKSHEETS

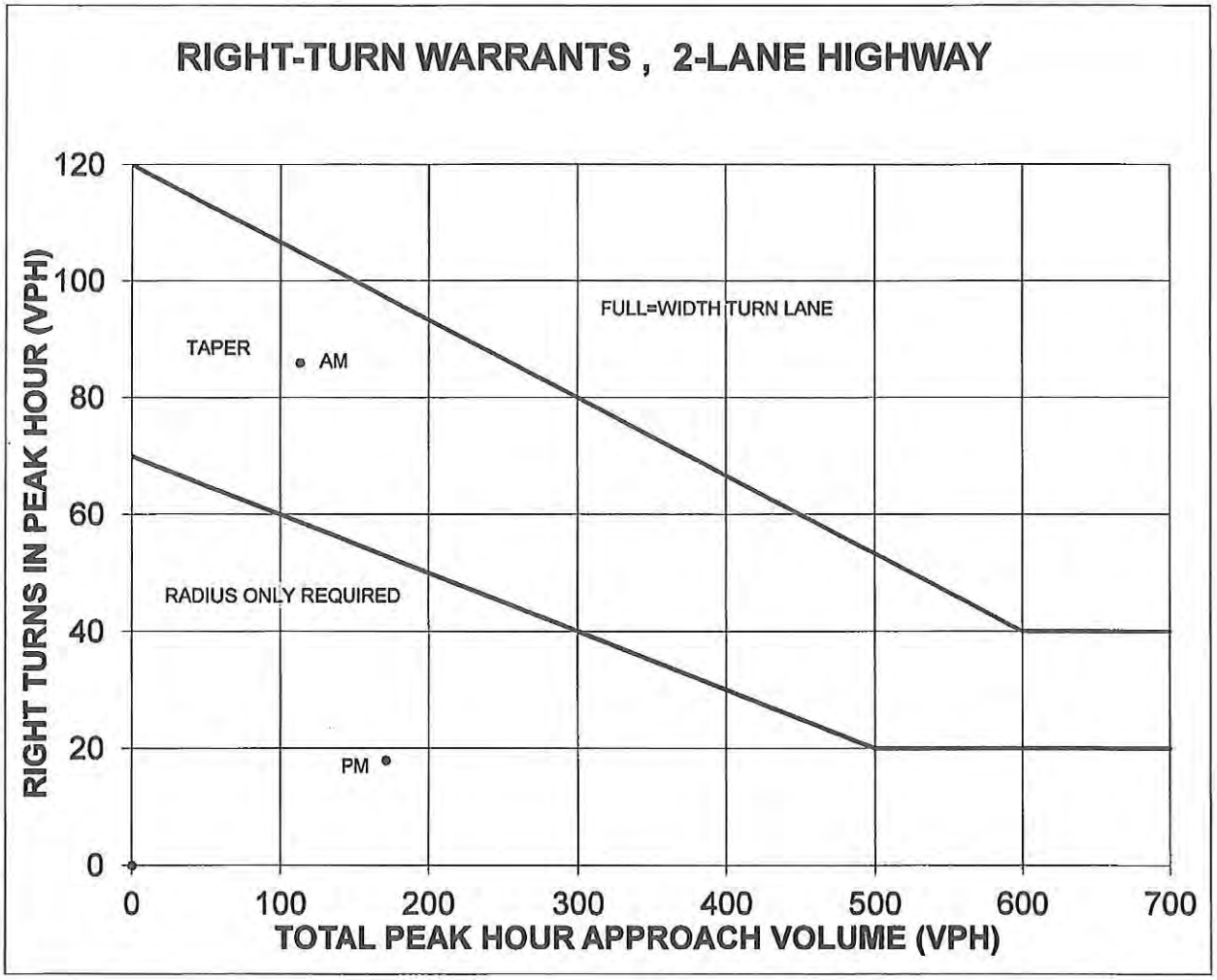
Carmel Valley Road/Tularcitos Access Road
Westbound Approach



Scenario	Advancing	Opposing	% Left-Turn	Left-Turn Lane Warranted
A. Existing + Project A	187	112	3%	No
B. Existing + Project P	74	168	1%	No

Source: Transportation Research Board, "Intersection Channelization Guide", NCHRP Report 279, November, 1985

Carmel Valley Road/Tularcitos Access Road
Eastbound Approach



Scenario	Total	Right-Turning	Treatment Required
A. Existing + Project AM	113	66	Taper
B. Existing + Project PM	171	18	None

Source: Transportation Research Board, "Intersection Channelization Guide", NCHRP Report 287, November, 1985, p. 64.

Note: For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = peak hour right turns - 20.

From: Martin, Bill
Sent: Saturday, February 09, 2013 7:37 PM
To: Olebe, Richard@DWR; Hatler, Charyce
Cc: Gentzler, Seth; Meyersohn, Daniel@DWR
Subject: Access Route lengths and intersections

Richard/Charyce,

Table 1 provides the length of each access route and the number of intersections along each route. Access road lengths were calculated from GIS mapping of each of the routes. The original Tularcitos route and the current proposed Tularcitos Route Options were measured with their intersection with Carmel Valley Road as the starting point. Each of the Tularcitos Routes includes the length of San Clemente Drive through Sleepy Hollow in addition to the 0.15 mile distance along Carmel Valley Road between the original Tularcitos Route and San Clemente Drive. The length of the Cachagua Route (via Tassajara Road) was measured with entrance to the original Tularcitos Access Route as the starting point.

All roads that intersected the routes were counted as intersections as per your email, with the exception of short private driveways within the Sleepy Hollow development. For the Tularcitos Options, intersections included were the new entrances off Carmel Valley Road and where the access routes joined San Clemente Drive past the CAW gate. The original route added the two junctions between the low and high roads, where they split below the dam and where they come together again at the dam. Each of these routes also included the San Clemente Drive entrance to Sleepy Hollow and two named streets, Lismore Lane and Sleepy Hollow Drive within the development.

For the Cachagua route, there were four named roadways along Carmel Valley Road (San Clemente Drive, Cachagua, a "County Road" , and Tassajara). Along Tassajara/Cachagua portion of the route, named roads included the Tassajara/Cachagua split, Cosat Road, Trampa Canyon, Asoleado Rd, Nasson Rd, Ridgeback Rd, Via Cielo, and the Jeep Trail. All others counted as intersections were unnamed private roads, most of which appeared be, based on the aerial views, long private driveways to properties set well off the road.

Table 1. Access Route Lengths and Intersections

Route	Length (miles)	Number of intersections*
Original Tularcitos Access Route (includes Low and High Roads and portion of San Clemente Drive through Sleepy Hollow)	5.7	7
Tularcitos Option 1 (includes High Road and portion of San Clemente Drive through Sleepy Hollow)	4.8**	5
Tularcitos Option 2 (includes High Road and portion of San Clemente Drive through Sleepy Hollow)	4.7	5
Cachagua Route (Carmel Valley Road/Tassajara Road/Cachagua Road/Jeep Trail – relative to Tularcitos Access Route Entrance)	20.4	53***

* as discernible from Google Earth

**Tularcitos Option 1 would reduce the travel by 0.4 mile on Carmel Valley Road relative to the more eastern entrances, but would add the same 0.4 mile to vehicles traveling to San Clemente Drive.

***Includes 12 named roads (inc. the Jeep Trail) and 41 unnamed private roads/driveways.

I will be in on Monday if you would like to discuss.

Bill Martin
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
(510) 874-3020

Carmel River Reroute & San Clemente Dam Removal Project Environmental Permitting

Task 6: DRAFT SUPPLEMENTAL NOISE ANALYSIS

Prepared for:

State Coastal Conservancy
California American Water

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

Table of Contents

Tables

Figures

List of Acronyms

ADT	Average Daily Traffic
CAW	California American Water
CRRDR	Carmel River Reroute and Dam Removal
CVFP	Carmel Valley Filter Plant
dB	decibels
dBA	decibel – A-Weighted
DNL	day-night sound level
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
L_{XX}	percentile-exceeded sound level
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_{min}	minimum sound level
LT-X	Long-Term measurement location
R-X	Modeled Receiver location
SCC	State Coastal Conservancy
SLM	sound level meter

1.0 Introduction

An Environmental Impact Report/Statement (EIR/EIS) was prepared for the San Clemente Dam Seismic Safety Project, located in Carmel Valley, which is an unincorporated area of Monterey County, California. The EIR/EIS evaluated environmental noise exposure during construction activities. Modified construction access alternatives are being considered for Alternative 3, the Carmel River Reroute and San Clemente Dam Removal. Construction access for Alternative 3 is now proposed via the Tularcitos Access Route that was previously described as part of the Proponent's Proposed Alternative in the final EIR/EIS. Minor modifications have been made to the construction access route since certification of the Final EIR. There are now two access route alternatives (Option 1 and Option 2) for the modified Tularcitos Access Route proposed for construction of Alternative 3. The Option 1 and 2 alignments are depicted in Figure 1.

Option 1 would begin at Carmel Valley Road approximately 3,200 feet west of San Clemente Drive although the final connection point to Carmel Valley Road may be refined to be anywhere between 1,100 and 3,200 feet west of San Clemente Drive. Option 1 would require the construction of a permanent bridge in order to cross Tularcitos Creek. The proposed road from the bridge would connect with the existing Carmel Valley Filter Plant (CVFP) access road. Once the access road reaches the CVFP, the Option 1 alignment would continue south on the existing Pipeline Access Road and connect with the private California American Water (CAW) access road where it will run south and east until it intersects with the High Road near the existing concrete ford over the Carmel River.

Option 2 would begin at Carmel Valley Road approximately 800 feet west of San Clemente Drive. A permanent bridge would be constructed in order to cross Tularcitos Creek. The proposed road from the bridge would also connect with the existing CVFP access road. Once the access road reach the CVFP, the Option 2 alignment would continue south on the existing paved road until it reaches the CAW gate. From the CAW gate, the Option 2 alignment would run south and east along San Clemente Drive until it intersects with the High Road near the existing concrete ford over the Carmel River.

The purpose of this Supplemental Noise Analysis is to analyze noise exposure and potential noise impacts generated by Project peak construction traffic along the Option 1 and 2 alignments.

2.0 Fundamentals of Acoustics

Noise is defined as unwanted sound. Sound levels are measured on a logarithmic scale in decibels (dB). The most common descriptor of sound and noise associated with community noise measurements is the A-weighted sound pressure level (dBA). It is defined as the sound pressure level in decibels as measured on a sound meter using the A-weighting filter network. The A-weighted frequency filter de-emphasizes the very low and very high frequency components of sound in a manner that simulates the frequency response of human hearing, and correlates well with people's group reactions to sound and environmental noise. All sound levels in this report are A-weighted. A-weighted sound pressure levels of typical sources of noise are shown in Table 1.

The ambient sound level is the existing sound level resulting from natural and mechanical sources and human activity considered normally present in a particular area. The ambient noise level is

composed of the cumulative sum of all noise sources, both near and far. The background noise level generally describes the mixture of indistinguishable sounds from many sources without any one dominating sound. It is the noise level that exists in the absence of identifiable, sporadic, individual noise events such as those caused by individual automobile pass-bys, aircraft overflights, intermittent dog barking, etc.

Humans are better able to perceive changes in noise level than determining absolute noise levels. Potential responses of persons to changes in the noise environment are usually assessed by evaluating differences between the existing and total predicted future noise environments. The following relationships of perception and response to quantifiable noise changes are used as a basis for assessing potential effects of these changes in environmental noise level:

- Except in a carefully controlled laboratory condition, a change of 1 dBA is very difficult to perceive.
- In the outside environment, a 3 dBA change is considered just perceptible.
- An increase of 5 dBA is considered readily perceptible and would generally result in a change in community response.
- A 10 dBA increase is perceived as a doubling in loudness and would likely result in a widespread community response.

Table 1. Sound Levels of Typical Noise Sources and Noise Environments

Noise Source (at a given distance)	Scale of dBA Sound Levels	Noise Environment
Commercial Jet Take-off (200 ft.)	120	Threshold of Pain
Pile Driver (50 ft.)	110	
Ambulance Siren (100 ft.) Newspaper Press (5 ft.) Power Lawn Mower (3 ft.)	100	Very Loud
Motorcycle (25 ft.) Propeller Plane Flyover (1000 ft.) Diesel Truck, 40 mph (50 ft.)	90	
Garbage Disposal (3 ft.)	80	High Urban Ambient Sound
Passenger Car, 65 mph (25 ft.) Vacuum Cleaner (10 ft.)	70	Moderately Loud
Normal Conversation (5 ft.) Air Conditioning Unit (100 ft.)	60	
Light Traffic (100 ft.)	50	
Bird Calls (distant)	40	Lower Limit of Urban Ambient Sound
Soft. Whisper (5 ft.)	30	
	20	Very Quiet
	0	

Source: Compiled by URS Corporation.

Because of the logarithmic nature of the dB unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. However, some simple rules are useful in dealing with sound levels. First, if a sound's intensity is doubled, the sound level increases by 3 dB,

regardless of the initial sound level. For example, 60 dB + 60 dB = 63 dB, and 80 dB + 80 dB = 83 dB. However, it requires about a 10 dB increase to double the perceived intensity of a sound.

Because environmental noise varies with time, it is beneficial to define certain measurement terms that are used to characterize this fluctuating quantity. The energy-average level over a specific period is defined as the Equivalent Sound Level. The Equivalent Sound Level (L_{eq}) is the sound pressure level over a time interval that is equivalent to a perfectly constant sound pressure level containing the same acoustic energy over the same interval. Thus, L_{eq} includes all sporadic or transient events occurring during the given event.

In addition to the L_{eq} metric, the statistical distribution of measured sound levels is used to describe the range of noise levels measured during a given period. This metric is presented as $L_{N,}$ which is the sound level exceeded N percent of the time during a given measurement interval. For example, L_{10} (in dBA) is the sound level exceeded 10 percent of the time and this level is commonly used to represent the peak noise levels of the measurement. L_{50} is the sound level that is exceeded 50 percent of the time and represents the median sound level. L_{90} is the sound level exceeded 90 percent of the time and this level represents the background noise levels of the measurement.

Other descriptors of noise are also commonly used to identify noise/land use compatibility guidelines and assist in the prediction of community reaction to adverse effects of environmental noise, including traffic-generated and industrial noise. These descriptors include the Day-Night Noise Level (DNL or L_{dn}); in California, the Community Noise Equivalent Level (CNEL) descriptor is used. The maximum A-weighted noise level recorded for a single event is defined as L_{max}. Each of these descriptors uses units of dBA. Both L_{dn} and CNEL noise metrics represent 24-hour periods and both apply a time-weighted factor designed to penalize noise events that occur during evening or nighttime hours, when relaxation and sleep disturbance is of more concern. The time-weighting adds a 10 dBA penalty to the hourly L_{eq} noise levels from 10:00 p.m. to 7:00 a.m. (nighttime period) and a 5 dBA penalty from 7:00 p.m. to 10:00 p.m. (evening period). For CNEL, daytime is defined as the time between 7:00 a.m. to 7:00 p.m., and for L_{dn} daytime is defined as the time between 7:00 a.m. to 10:00 p.m. The use of either the CNEL or L_{dn} noise metrics are mandated by state guidelines for noise/land use compatibility planning purposes (State of California, General Plan Guidelines, November 1990) and are the predominant metrics used by local governments to describe noise environments within their jurisdictions.

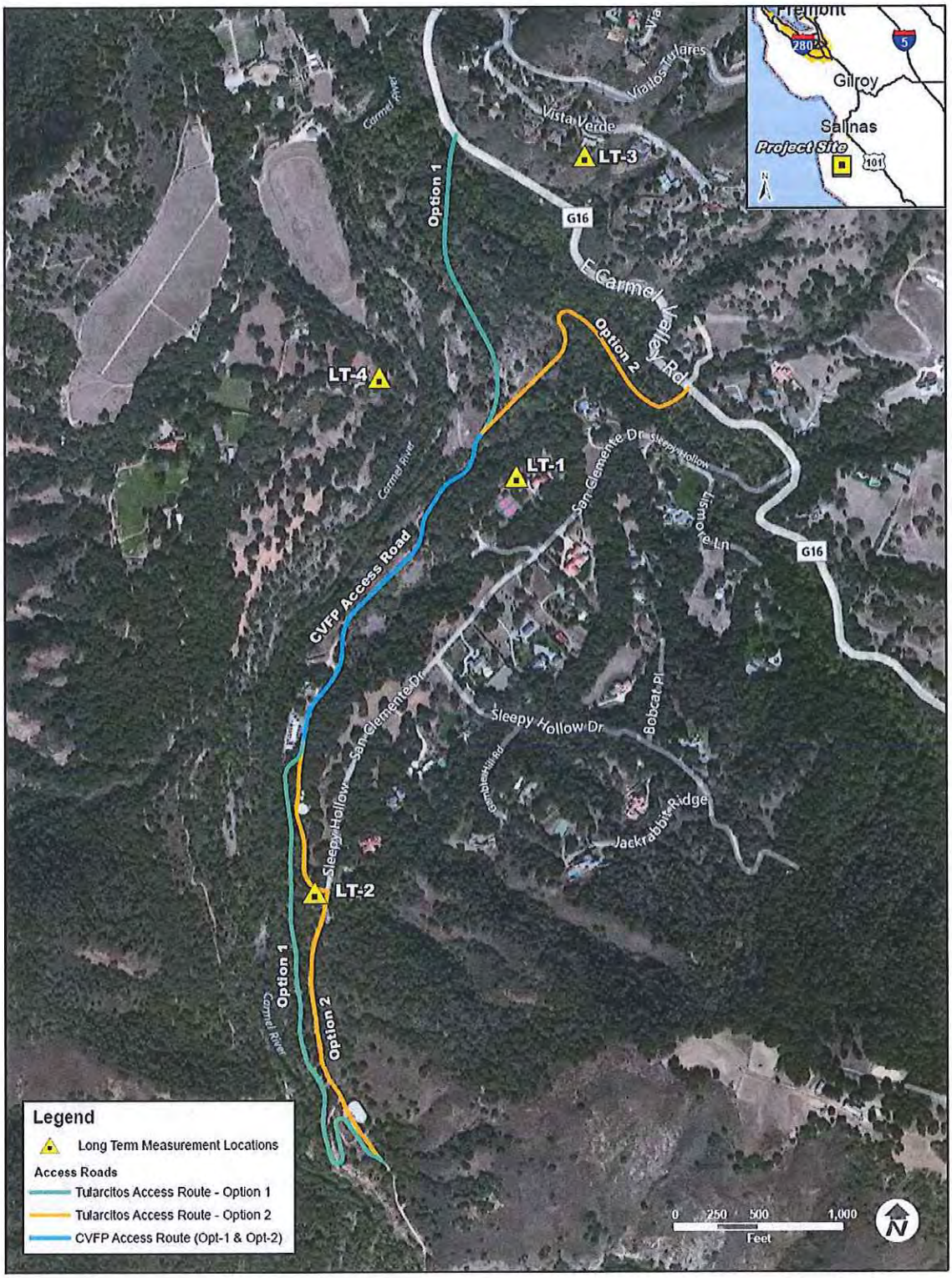
3.0 Local Regulatory Setting

Monterey County's Noise Control Code states, "No person shall, within the unincorporated limits of the County of Monterey, operate any machine, mechanism, device, or contrivance which produces a noise level exceeding 85 dBA measured fifty feet therefrom", but goes on to say "The prohibition in this Section shall not apply to aircraft nor to any such machine, mechanism, device or contrivance which is operated in excess of 2,500 feet from any occupied dwelling unit." Noise-sensitive receivers located further than 2,500 feet away from proposed construction activities will not be subject to the noise standard found in the County of Monterey Noise Control Code.

4.0 Environmental Setting

The existing noise environment was quantified by a noise measurement survey conducted January 15 and 16, 2013 at noise-sensitive receivers located near the Tularcitos Access Route. Ambient noise measurements were conducted at two locations within the Sleepy Hollow community, one location in the Los Tulares community along Vista Verde, and one location in Stonepine Estates. These locations are shown in Figure 1. The purpose of the measurements was to quantify noise exposure in the project environs, with emphasis on locations of noise-sensitive receivers that may be impacted by material deliveries and construction worker trips utilizing the Tularcitos Access Route. Long-term (24-hour) measurements were conducted at each of the four measurement locations. During the noise measurements, the temperature was near 52° Fahrenheit with relative humidity at 43 percent. Winds ranged from calm to light and were rarely at speeds over 5 mph. The sky ranged from clear to partly cloudy throughout the entire noise measurement period. These weather conditions were optimum for obtaining accurate noise measurements.

Figure 1. Ambient Noise Measurement Locations



The sound level meters (SLMs) were placed in key locations that represented the ambient noise levels at nearby noise-sensitive receivers. All sound level meters were configured to measure dBA noise levels at the slow meter response setting. The calibration of each meter was verified in the field before and after each measurement period. Certificates of certification for the ambient noise survey equipment and field measurement data sheets are in Appendices A and B, respectively. Ambient noise levels for the noise measurement sites are presented below.

LT-1: The noise-sensitive receiver located at LT-1 is a single-family home located on Lot 10 within the Sleepy Hollow community. Lot 10 is located in the northwest portion of the Sleepy Hollow community along San Clemente Drive. The SLM was placed in a metal utility box, affixed to a tree located in the backyard of Lot 10, and positioned at an elevation of five feet above existing ground surface. Table 2 lists the hourly results of the 24-hour ambient noise survey conducted at site LT-1. The average daytime ambient noise level (L_{eq}) was 39.8 dBA and hourly L_{eq} noise levels ranged from 36.9 to 43.8 dBA. The average evening ambient noise level (L_{eq}) was 36 dBA and hourly L_{eq} noise levels ranged from 35.3 to 36.9 dBA. The average nighttime ambient noise level (L_{eq}) was 33.7 dBA and hourly L_{eq} noise levels ranged from 33 to 35.1 dBA. The CNEL over the 24-hour measurement period was 41.8 dBA.

Table 2. Ambient Noise Level Measurement at LT-1 (dBA)

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 10:00	39.5	56.0	42.5	35.7	33.2	31.7
1/15/2013 11:00	37.1	47.6	39.3	35.9	34.2	32.7
1/15/2013 12:00	39.5	51.2	41.4	38.8	36.4	34.3
1/15/2013 13:00	38.3	47.2	39.7	37.8	36.4	35.1
1/15/2013 14:00	39.8	49.0	41.5	39.2	37.6	35.5
1/15/2013 15:00	41.0	53.9	42.9	40.0	38.2	36.0
1/15/2013 16:00	40.1	54.2	42.5	38.7	37.3	35.7
1/15/2013 17:00	39.5	46.8	40.9	39.2	37.9	36.7
1/15/2013 18:00	36.9	42.7	38.1	36.6	35.6	34.1
1/15/2013 19:00	36.9	49.4	38.0	36.4	35.2	34.4
1/15/2013 20:00	35.6	40.4	36.9	35.4	34.2	33.1
1/15/2013 21:00	35.3	40.5	36.3	35.1	34.1	32.9
1/15/2013 22:00	34.8	45.2	35.8	34.4	32.8	32.2
1/15/2013 23:00	33.7	38.4	34.3	33.7	33.0	32.2
1/16/2013 0:00	33.1	35.3	33.8	33.2	32.0	30.9
1/16/2013 1:00	33.0	36.1	34.4	32.7	31.8	31.1
1/16/2013 2:00	33.2	38.7	34.5	32.9	31.9	31.3
1/16/2013 3:00	33.1	36.2	33.9	33.1	32.0	31.2
1/16/2013 4:00	33.5	35.2	34.0	33.4	33.0	32.4
1/16/2013 5:00	33.5	39.9	34.4	33.2	32.5	31.5
1/16/2013 6:00	35.1	49.5	36.2	34.7	33.4	32.7

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/16/2013 7:00	38.6	51.3	40.3	36.5	34.8	32.8
1/16/2013 8:00	38.9	57.1	40.2	37.1	35.4	34.2
1/16/2013 9:00	43.8	64.2	44.6	36.9	35.1	33.8

Source: URS Corporation, 2013.
Notes:
Measurements conducted on January 15 and 16, 2013. Measurement Location: N 36° 27' 30.0", W 121° 42' 42.6"
24-hour L_{eq} = 37.9 dBA; CNEL = 41.8 dBA; Daytime L_{eq} = 39.8 dBA; Evening L_{eq} = 36.0 dBA; Nighttime L_{eq} = 33.7 dBA
Key:
dBA = A-weighted decibel
L_{eq} = equivalent sound level
CNEL = Community Noise Equivalent Level
L_{max} = maximum sound level
L_{10} = sound level exceeded 10% of the time
L_{50} = sound level exceeded 50% of the time
L_{90} = sound level exceeded 90% of the time
L_{min} = minimum sound level

LT-2: The SLM at LT-2 was located across the street from a single-family home located on Lot 1 within the Sleepy Hollow community. Lot 1 is located in the southern portion of the Sleepy Hollow community along San Clemente Drive. The SLM was placed in a metal utility box, affixed to a chain link fence, and positioned at an elevation of five feet above existing ground surface. Table 3 lists the results of the 24-hour ambient noise survey conducted at site LT-2. The average daytime ambient noise level (L_{eq}) was 45 dBA and hourly L_{eq} noise levels ranged from 37.2 to 54.4 dBA. The average evening ambient noise level (L_{eq}) was 38.9 dBA and hourly L_{eq} noise levels ranged from 38.7 to 39.2 dBA. The average nighttime ambient noise level (L_{eq}) was 38.8 dBA and hourly L_{eq} noise levels ranged from 38.5 to 39.6 dBA. The CNEL over the 24-hour measurement period was 46.7 dBA.

Table 3. Ambient Noise Level Measurement at LT-2 (dBA)

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 10:00	39.3	48.5	39.8	39.0	38.4	37.8
1/15/2013 11:00	54.4	85.7	40.5	37.9	37.1	36.2
1/15/2013 12:00	37.2	48.8	38.1	36.9	36.1	35.6
1/15/2013 13:00	42.2	70.2	38.9	37.4	36.6	35.8
1/15/2013 14:00	38.8	56.8	38.5	37.4	36.7	36.0
1/15/2013 15:00	39.7	53.6	41.3	38.8	37.5	36.8
1/15/2013 16:00	39.4	53.8	40.5	38.4	37.6	37.1
1/15/2013 17:00	38.7	41.4	39.1	38.6	38.3	38.1
1/15/2013 18:00	38.7	53.3	38.8	38.3	38.1	37.8
1/15/2013 19:00	39.2	54.9	38.8	38.3	37.9	37.6
1/15/2013 20:00	38.7	41.3	39.2	38.6	38.2	37.7
1/15/2013 21:00	38.7	52.2	39.0	38.5	38.1	37.7
1/15/2013 22:00	39.6	60.7	39.0	38.6	38.2	37.6
1/15/2013 23:00	38.6	40.0	39.0	38.6	38.2	37.8
1/16/2013 0:00	38.5	39.5	38.8	38.5	38.1	37.6
1/16/2013 1:00	38.6	40.0	39.0	38.6	38.3	37.8

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/16/2013 2:00	38.6	39.6	38.9	38.6	38.2	37.7
1/16/2013 3:00	38.6	40.2	39.0	38.6	38.3	37.7
1/16/2013 4:00	38.7	39.9	39.0	38.7	38.3	38.0
1/16/2013 5:00	38.9	55.7	39.0	38.6	38.3	37.8
1/16/2013 6:00	38.9	40.2	39.3	38.8	38.5	38.1
1/16/2013 7:00	40.5	57.0	40.6	39.1	38.6	38.0
1/16/2013 8:00	39.6	49.3	40.3	39.3	38.7	38.0
1/16/2013 9:00	41.8	57.9	40.8	39.6	39.0	38.2

Source: URS Corporation, 2013.
Notes:
Measurements conducted on January 15 and 16, 2013. Measurement Location: N 36° 27' 05.8", W 121° 42' 57.8."
24-hour L_{eq} = 42.9 dBA; CNEL = 46.7 dBA; Daytime L_{eq} = 45.0 dBA; Evening L_{eq} = 38.9 dBA; Nighttime L_{eq} = 38.8 dBA
Key:
dBA = A-weighted decibel
L_{eq} = equivalent sound level
CNEL = Community Noise Equivalent Level
L_{max} = maximum sound level
L_{10} = sound level exceeded 10% of the time
L_{50} = sound level exceeded 50% of the time
L_{90} = sound level exceeded 90% of the time
L_{min} = minimum sound level

LT-3: The SLM at LT-3 was located in the backyard of the single-family home located at 220 Vista Verde within the Los Tulares community that is located north of Carmel Valley Road. The SLM was placed in a metal utility box, affixed to a wooden fence post in the backyard, and positioned at an elevation of five feet above existing ground surface. Table 4 lists the results of the 24-hour ambient noise survey conducted at site LT-3. The average daytime ambient noise level (L_{eq}) was 45.4 dBA and hourly L_{eq} noise levels ranged from 42.2 to 46.8 dBA. The average evening ambient noise level (L_{eq}) was 42.5 dBA and hourly L_{eq} noise levels ranged from 42.2 to 43 dBA. The average nighttime ambient noise level (L_{eq}) was 41.3 dBA and hourly L_{eq} noise levels ranged from 40.4 to 44 dBA. The CNEL over the 24-hour measurement period was 48.7 dBA.

Table 4. Ambient Noise Level Measurement at LT-3 (dBA)

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 11:00	44.6	61.9	46.4	39.8	37.6	36.1
1/15/2013 12:00	43.9	59.0	47.3	40.4	37.6	35.8
1/15/2013 13:00	42.2	54.9	45.4	39.3	37.3	35.7
1/15/2013 14:00	46.3	58.5	50.0	43.8	39.4	36.8
1/15/2013 15:00	45.1	56.8	49.0	42.2	38.5	36.6
1/15/2013 16:00	46.1	59.2	50.2	43.1	38.6	36.3
1/15/2013 17:00	45.8	57.2	49.9	42.5	39.6	37.5
1/15/2013 18:00	45.2	60.7	48.7	42.2	40.1	38.9
1/15/2013 19:00	43.0	54.2	45.8	40.5	39.5	38.7
1/15/2013 20:00	42.4	57.5	44.3	40.3	39.5	38.8
1/15/2013 21:00	42.2	57.4	43.7	40.3	39.7	38.9
1/15/2013 22:00	41.3	55.7	42.2	40.1	39.1	38.2

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 23:00	40.6	50.7	41.6	40.3	39.4	38.2
1/16/2013 0:00	40.4	49.5	41.3	40.1	39.4	38.4
1/16/2013 1:00	40.6	48.2	41.9	40.2	39.3	38.4
1/16/2013 2:00	40.6	48.9	42.2	40.2	39.3	38.3
1/16/2013 3:00	40.6	46.8	41.7	40.3	39.4	38.5
1/16/2013 4:00	40.5	49.4	41.6	40.1	39.3	38.6
1/16/2013 5:00	41.5	56.8	42.1	40.5	39.5	38.5
1/16/2013 6:00	44.0	56.3	46.7	41.5	40.2	39.2
1/16/2013 7:00	46.8	65.7	49.8	44.2	41.3	40.2
1/16/2013 8:00	46.6	65.4	49.2	43.7	40.9	39.2
1/16/2013 9:00	45.0	60.2	47.6	42.2	39.7	38.3
1/16/2013 10:00	44.7	63.0	47.2	42.3	39.6	38.2

Source: URS Corporation, 2013.
Notes:
Measurements conducted on January 15 and 16, 2013. Measurement Location: N 36° 27' 48.7", W 121° 42' 37.3."
24-hour L_{eq} = 43.9 dBA; CNEL = 48.7 dBA; Daytime L_{eq} = 45.4 dBA; Evening L_{eq} = 42.5 dBA; Nighttime L_{eq} = 41.3 dBA
Key:
dBA = A-weighted decibel
L_{eq} = equivalent sound level
CNEL = Community Noise Equivalent Level
L_{max} = maximum sound level
L_{10} = sound level exceeded 10% of the time
L_{50} = sound level exceeded 50% of the time
L_{90} = sound level exceeded 90% of the time
L_{min} = minimum sound level

LT-4: The SLM at LT-4 was located in the backyard of the guest house located within the Stonepine Estates. The SLM was placed in a metal utility box, affixed to a wooden fence post in the backyard, and positioned at an elevation of five feet above existing ground surface. Table 4 lists the results of the 24-hour ambient noise survey conducted at site LT-4. The average daytime ambient noise level (L_{eq}) was 41.7 dBA and hourly Leq noise levels ranged from 40.2 to 43.5 dBA. The average evening ambient noise level (L_{eq}) was 40.8 dBA and hourly Leq noise levels ranged from 40.7 to 40.8 dBA. The average nighttime ambient noise level (L_{eq}) was 40.2 dBA and hourly Leq noise levels ranged from 40 to 40.6 dBA. The CNEL over the 24-hour measurement period was 47.1 dBA.

Table 5. Ambient Noise Level Measurement at LT-4 (dBA)

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 11:00	41.2	53.8	41.1	39.5	39.0	38.5
1/15/2013 12:00	40.2	50.5	41.1	39.9	39.2	38.5
1/15/2013 13:00	41.0	59.0	41.5	40.5	39.8	39.1
1/15/2013 14:00	42.0	60.8	42.7	41.1	40.2	39.4
1/15/2013 15:00	42.2	57.5	43.4	41.6	40.5	39.5
1/15/2013 16:00	41.8	57.8	43.7	40.9	40.1	39.3
1/15/2013 17:00	41.7	45.2	42.5	41.6	40.8	40.2
1/15/2013 18:00	40.9	43.4	41.4	40.7	40.3	39.9

Date and Time (Hour-Starting)	L_{eq}	L_{max}	L_{10}	L_{50}	L_{90}	L_{min}
1/15/2013 19:00	40.8	46.6	41.2	40.6	40.3	39.9
1/15/2013 20:00	40.8	47.6	41.2	40.8	40.4	40.0
1/15/2013 21:00	40.7	43.0	41.1	40.6	40.2	39.8
1/15/2013 22:00	40.6	45.3	41.1	40.4	39.9	39.7
1/15/2013 23:00	40.2	52.6	40.4	40.1	39.7	39.4
1/16/2013 0:00	40.0	40.7	40.3	39.9	39.6	39.3
1/16/2013 1:00	40.0	41.1	40.3	39.9	39.6	39.3
1/16/2013 2:00	40.0	41.0	40.4	39.9	39.6	39.3
1/16/2013 3:00	40.0	40.9	40.4	40	39.7	39.4
1/16/2013 4:00	40.2	41.4	40.6	40.2	39.8	39.6
1/16/2013 5:00	40.1	41.3	40.4	40.1	39.8	39.5
1/16/2013 6:00	40.6	46.4	41.3	40.4	40.0	39.4
1/16/2013 7:00	43.5	67.7	43.4	41.2	40.4	40.0
1/16/2013 8:00	42.0	63.5	42.6	40.8	40.1	39.4
1/16/2013 9:00	42.0	57.6	41.6	40	39.4	38.8
1/16/2013 10:00	41.1	57.7	42.1	40.4	39.4	38.5

Source: URS Corporation, 2013.
Notes:
Measurements conducted on January 15 and 16, 2013. Measurement Location: N 36° 27' 35.9", W 121° 42' 52.6."
24-hour L_{eq} = 41.1 dBA; CNEL = 47.1 dBA; Daytime L_{eq} = 41.7 dBA; Evening L_{eq} = 40.8 dBA; Nighttime L_{eq} = 40.2 dBA
Key:
dBA = A-weighted decibel
L_{eq} = equivalent sound level
CNEL = Community Noise Equivalent Level
L_{max} = maximum sound level
L_{10} = sound level exceeded 10% of the time
L_{50} = sound level exceeded 50% of the time
L_{90} = sound level exceeded 90% of the time
L_{min} = minimum sound level

5.0 Significance Thresholds

Significance thresholds for noise are based on the perceptible increase in CNEL at the areas of frequent use on the properties of noise-sensitive residential land uses near the two proposed entrances and access routes associated with the Tularcitos Access Route for the Carmel River Reroute and San Clemente Dam Removal Project. Noise impacts have the potential to be generated by trucks associated with material deliveries in addition to construction workers utilizing the Tularcitos Access Route.

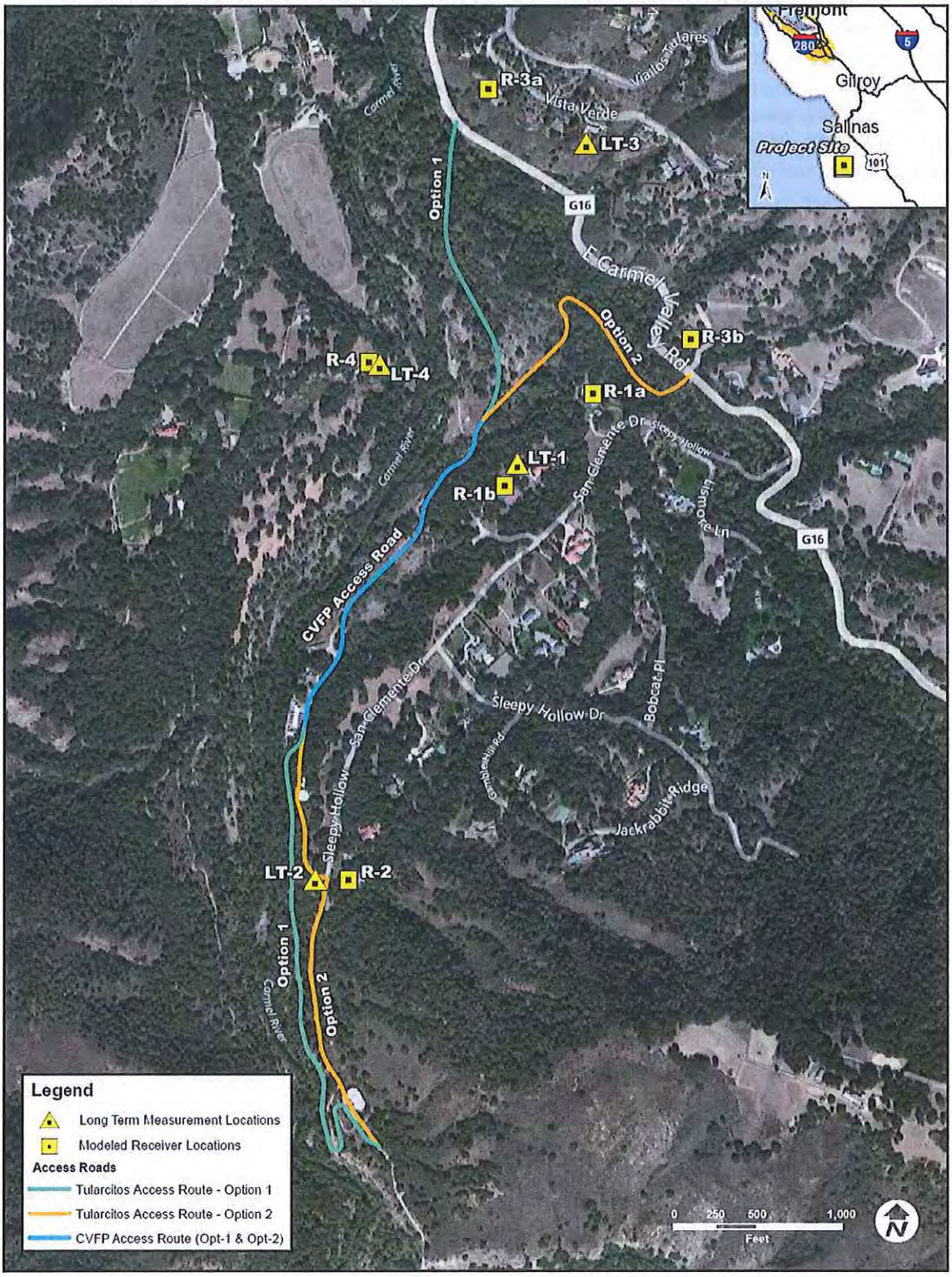
Changes in a noise level of less than 3 decibels A-weighted (dBA) are not typically noticed by the human ear. Some individuals who are extremely sensitive to changes in noise may notice changes from 3 to 5 dBA. An increase of 5 dBA is considered readily perceptible and would generally result in a change in community response. Based on this information, a temporary or periodic increase in the ambient noise level (CNEL) by 5 dBA or more at areas of frequent human use during construction activities associated with the utilization of the Tularcitos Access Route would result in a significant impact. It should be noted that because the CNEL is a 24-hour average noise level, the 5 dBA criterion is not applicable to single vehicle pass-bys.

The measured ambient noise levels are applied to modeled noise-sensitive receivers where there are areas of frequent human use in order to analyze potential noise impacts due to the utilization of Options 1 and 2 for the Tularcitos Access Route. Table 6 summarizes the significance thresholds at each of the noise-sensitive receivers where ambient noise measurements were conducted. The existing CNEL, applicable modeled noise-sensitive receivers, significance threshold (existing CNEL + 5 dBA), and Project construction traffic noise significance threshold at each noise-sensitive receiver are listed. Figure 2 illustrates the locations of all ambient noise measurement locations and modeled noise-sensitive receivers.

Table 6. Significance Thresholds (dBA)

Ambient Noise Measurement Location	Applicable Modeled Noise-Sensitive Receivers – Area of Frequent Human Use	Existing CNEL (dBA)	Significance Threshold (Existing + Project Construction Traffic Noise) (CNEL dBA)	Project Construction Traffic Noise Significance Threshold at Receiver (CNEL dBA)
LT-1	R-1a, R-1b	41.8	46.8	45.1
LT-2	R-2	46.7	51.7	50.0
LT-3	R-3a, R-3b	48.7	53.7	52.0
LT-4	R-4	47.1	52.1	50.4

Figure 2. Ambient Noise Measurement Locations and Modeled Noise-Sensitive Receivers



6.0 Construction Traffic Noise Model

The existing and Project construction traffic noise levels were calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based on the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks – with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the area. Soft site conditions are assumed in the model. The model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. The day/night distribution of traffic is factored into the model calculations to assess noise exposure in terms of CNEL (Community Noise Equivalent Level) or $L_{dn.}$ (day-night average sound level). The CNEL metric is the standard noise metric used in California in order to identify potential noise impacts caused by increases in traffic over the course of a 24-hour period. Table 7 lists the construction traffic summary during the peak month when Project construction traffic utilizing the Tularcitos Access Route will be at its highest volume and generating the highest noise levels. The peak month will occur in June of 2014 and this month will be used as the worst-case scenario for the noise model. The daily personnel trips, daily material (single hauler) trips, and daily material and mobilization/demobilization (trailer) trips are listed in the table as roundtrips and Average Daily Traffic (ADT) volumes. All Project construction traffic trips are assumed to be occurring during daytime hours (7:00 AM to 7:00 PM). Project construction traffic is assumed to travel at 15 mph along both options for the Tularcitos Access Route.

Table 7. Project Peak Construction ADT along Tularcitos Access Route and Carmel Valley Road

Project Construction Traffic Type	Roundtrips	Project Construction ADT
Daily Personnel Trips	20	40
Daily Mat'l - Single Hauler Unit Trips	12	24
Daily Mat'l & Mob/Demob - Trailer Trips	2	4

The estimated CNEL values that would be generated by Project construction traffic trips along the Tularcitos Access Route for Options 1 and 2, in addition to Carmel Valley Road, were compared to the CNEL values generated by existing traffic conditions to determine the change in CNEL at nearby noise-sensitive receivers. For both Options 1 and 2, it is assumed that there are no existing ADTs along the proposed Tularcitos Access Route. For this traffic noise analysis, a change in the CNEL of 5 dBA or more is considered a significant impact. The noise levels generated by Project construction traffic trips cannot exceed the significance thresholds at the modeled noise-sensitive receivers listed in Table 6.

Due to the rural nature of the environs surrounding the Tularcitos Access Route, additional noise analysis and modeling was conducted in order to quantify the short-term, intermittent increases in noise at areas of frequent human use as the trucks and passenger vehicles pass nearby. The L_{max} values generated by the trucks and passenger vehicles were compared to the average daytime L_{eq} values in order to quantify the potential noise increases at each modeled receiver location. These potential noise increases will only be audible as the vehicles travel along the Option 1 and 2 alignments and near the modeled receivers and will dissipate quickly.

7.0 Project Construction Traffic Noise

Noise generated by Project construction traffic trips along Options 1 and 2 for the Tularcitos Access Route are modeled at areas of frequent human use near the two proposed routes. The CNEL values found in Table 6 are applied to the areas of frequent human use at noise-sensitive receivers located near the four long-term measurement locations. The 68 trips (round trips for 20 cars and 14 single hauler units/trailers) were input into the noise model along Option 1 and Option 2 in order to model the potential increase in noise caused by Project peak construction traffic. This peak month construction traffic occurs at similar levels for only four months of the 3-year construction schedule. The average number of trucks per day over the period when construction is occurring (i.e. excluding the winter periods when there are zero truck trips) is 3 trucks per day. Tables 8 and 9 list the modeled receiver, distance to the Tularcitos Access Route, measured existing CNEL at the receiver, modeled CNEL at the receivers due to Project construction traffic along the Tularcitos Access Route, the measured plus modeled CNEL at each receiver, and the change in CNEL due to the implementation of each Option for the Tularcitos Access Route, respectively. The increase in CNEL at each noise-sensitive receiver due to the introduction of Project peak construction traffic along both Options 1 and 2 for the Tularcitos Access Route will be less than 5 dBA.

A typical diesel truck passby generates a noise level of up to 85 dBA Lmax at a distance of 50 feet and a typical passenger vehicle passby generates a noise level of up to 65 dBA Lmax at a distance of 50 feet. Due to the relatively low ambient noise level conditions near the proposed Tularcitos Access Route, trucks and passenger vehicles passing by homes located near the Option 1 and 2 alignments will be briefly noticeable as they pass nearby. For Option 1, Tables 10 and 11 summarize the noise levels that will be audible at each modeled receiver as the trucks and passenger vehicles, respectively, pass by the areas of frequent human use. For Option 2, Tables 12 and 13 summarize the noise levels that will be audible at each modeled receiver as the trucks and passenger vehicles, respectively, pass by the areas of frequent human use. There will be short-term, intermittent increases in noise levels at most of the areas of frequent human use as the trucks and passenger vehicles travel along the Option 1 and 2 alignments. These increases in noise will only be noticeable as the trucks and passenger vehicles pass nearby and will quickly dissipate as the vehicles travel along the Tularcitos Access Route toward the Project site.

As noted above, peak construction traffic of 11 to 14 trucks per day (equaling 22 to 28 round trips) occurs for four months of the 3-year construction schedule. The average number of trucks per day over the period when construction is occurring (i.e. excluding the winter periods when there are zero truck trips) is 3 trucks per day, or 6 round trips.

Table 8. Change in CNEL Due to Project Peak Construction Traffic along the Tularcitos Access Route at Modeled Receivers – Option 1

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 1 Access Route to Receiver (feet)	Measured Existing CNEL at Receiver (dBA)	Modeled Option 1 CNEL at Receiver (dBA)	Measured Existing CNEL Plus Modeled Option 1 CNEL (dBA)	Change in CNEL (dBA)
R-1a	540	41.8	29.8	42.1	0.3
R-1b	275	41.8	34.2	42.5	0.7
R-2	340	46.7	32.8	46.9	0.2
R-3a	275	48.7	34.2	48.9	0.2
R-3b	1,140	48.7	24.9	48.7	0.0
R-4	700	47.1	28.1	47.2	0.1

Table 9. Change in CNEL Due to Project Peak Construction Traffic along the Tularcitos Access Route at Modeled Receivers – Option 2

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 2 Access Route to Receiver (feet)	Measured Existing CNEL at Receiver (dBA)	Modeled Option 2 CNEL at Receiver (dBA)	Measured Existing CNEL Plus Modeled Option 2 CNEL (dBA)	Change in CNEL (dBA)
R-1a	160	41.8	37.7	43.2	1.4
R-1b	275	41.8	34.2	42.5	0.7
R-2	125	46.7	39.3	47.4	0.7
R-3a	1,440	48.7	23.4	48.7	0.0
R-3b	225	48.7	35.5	48.9	0.2
R-4	800	47.1	27.2	47.1	0.0

Table 10. Short-Term Increase in Noise Levels at Modeled Receivers Due to Trucks Traveling along the Tularcitos Access Route – Option 1

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 1 Access Route to Receiver (feet)	Measured Existing Daytime L_{eq} at Receiver (dBA)	Modeled Option 1 L_{max} at Receiver Due to Truck Passby (dBA)	Short-Term Increase in Noise Level Above Existing Daytime L_{eq} as Truck Passes Nearby (dBA)
R-1a	540	39.8	64.3	24.5
R-1b	275	39.8	70.2	30.4
R-2	340	45.0	68.3	23.3
R-3a	275	45.4	70.2	24.8
R-3b	1,140	45.4	57.8	12.4
R-4	700	41.7	62.1	20.4

Table 11. Short-Term Increase in Noise Levels at Modeled Receivers Due to Passenger Vehicles Traveling along the Tularcitos Access Route – Option 1

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 1 Access Route to Receiver (feet)	Measured Existing Daytime L_{eq} at Receiver (dBA)	Modeled Option 1 L_{max} at Receiver Due to Passenger Vehicle Passby (dBA)	Short-Term Increase in Noise Level Above Existing Daytime L_{eq} as Passenger Vehicle Passes Nearby (dBA)
R-1a	540	39.8	44.3	4.5
R-1b	275	39.8	50.2	10.4
R-2	340	45.0	48.3	3.3
R-3a	275	45.4	50.2	4.8
R-3b	1,140	45.4	37.8	0.0
R-4	700	41.7	42.1	0.4

Table 12. Short-Term Increase in Noise Levels at Modeled Receivers Due to Trucks Traveling along the Tularcitos Access Route – Option 2

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 2 Access Route to Receiver (feet)	Measured Existing Daytime L_{eq} at Receiver (dBA)	Modeled Option 2 L_{max} at Receiver Due to Truck Passby (dBA)	Short-Term Increase in Noise Level Above Existing Daytime L_{eq} as Truck Passes Nearby (dBA)
R-1a	160	39.8	74.9	35.1
R-1b	275	39.8	70.2	30.4
R-2	125	45.0	77.0	32.0
R-3a	1,440	45.4	55.8	10.4
R-3b	225	45.4	71.9	26.5
R-4	800	41.7	60.9	19.2

Table 13. Short-Term Increase in Noise Levels at Modeled Receivers Due to Passenger Vehicles Traveling along the Tularcitos Access Route – Option 2

Area of Frequent Human Use Modeled Receiver	Closest Distance from Option 2 Access Route to Receiver (feet)	Measured Existing Daytime L_{eq} at Receiver (dBA)	Modeled Option 2 L_{max} at Receiver Due to Passenger Vehicle Passby (dBA)	Short-Term Increase in Noise Level Above Existing Daytime L_{eq} as Passenger Vehicle Passes Nearby (dBA)
R-1a	160	39.8	54.9	15.1
R-1b	275	39.8	50.2	10.4
R-2	125	45.0	57.0	12.0
R-3a	1,440	45.4	35.8	0.0
R-3b	225	45.4	51.9	6.5
R-4	800	41.7	40.9	0.0

8.0 References

County of Monterey. 1993. County of Monterey Code of Ordinance, Chapter 10.60 – Noise Control.

Appendix A

Certification of Calibration for Ambient Noise Survey Equipment

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2011-151007

Instrument Model CAL200, Serial Number 2794, was calibrated on 02NOV2011. The instrument meets factory specifications per Procedure D0001.8190.

Instrument found to be in calibration as received: YES
Date Calibrated: 02NOV2011
Calibration due: 02NOV2013

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2559	2504	12 Months	29NOV2011	17865-1
PCB	1502B02FJ15PSIA	1342	12 Months	06DEC2011	3374488329
Larson Davis	2900	0661	12 Months	05APR2012	2011-141857
Hewlett Packard	34401A	3146A10352	12 Months	21AUG2012	5335364
Larson Davis	PRM915	0112	12 Months	09SEP2012	2011-148845
Larson Davis	PRM902	0480	12 Months	09SEP2012	2011-148846
Larson Davis	MTS1000/2201	0111	12 Months	09SEP2012	SM090911

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as shown on calibration report.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

Before: 114.06 dB, 94.05 dB, 1000.1 Hz @ sea level
After: Refer to Certificate of Measured Output

Signed: Scott Montgomery
Technician: Scott Montgomery

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2012-162320

Instrument Model 820, Serial Number 1470, was calibrated on 06AUG2012. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: NO
Date Calibrated: 06AUG2012
Calibration due: 06AUG2013

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0589 / 0103	12 Months	08DEC2012	2011-152462

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 31 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

See "As Received" data.
Tested with PRM828 S/N 0917

Signed: Nick Rasmussen
Technician: Nick Rasmussen

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2012-153626

Instrument Model 820, Serial Number 1528, was calibrated on 11JAN2012. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be In calibration as received: NO
Date Calibrated: 11JAN2012
Calibration due: 11JAN2014

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0277 / 0109	12 Months	21MAR2012	2011-141059

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 27 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data unavailable due to unit failure.
Tested with PRM828-2437

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2011-151300

Instrument Model 820, Serial Number 1768, was calibrated on 08NOV2011. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 08NOV2011
Calibration due: 08NOV2013

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2239	0099 / 0104	12 Months	18JAN2012	2011-138645

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 25 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data same as shipped data.
Tested with PRM828-2751

Signed: Ron Harris
Technician: Ron Harris

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

PCB PIEZOTRONICS
A PCB GROUP COMPANY

Certificate of Calibration and Conformance

Certificate Number 2012-162318

Instrument Model 820, Serial Number 1597, was calibrated on 16JUL2012. The instrument meets factory specifications per Procedure D0001.8160, ANSI S1.4 1983, IEC 651-Type 1 1979, and IEC 804-Type 1 1985.

Instrument found to be in calibration as received: YES
Date Calibrated: 16JUL2012
Calibration due: 16JUL2013

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL DUE	TRACEABILITY NO
Larson Davis	LDSigGn/2209	0589 / 0103	12 Months	08DEC2012	2011-152462

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 24 ° Centigrade

Relative Humidity: 40 %

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data
Tested with PRM828 S/N 2491

Signed: Nick Rasmussen
Technician: Nick Rasmussen

Provo Engineering and Manufacturing Center, 1681 West 820 North, Provo, Utah 84601
Toll Free: 888.258.3222 Telephone: 716.926.8243 Fax: 716.926.8215
ISO 9001-2008 Certified

Appendix B

Ambient Noise Level Field Measurement Data Sheets

FIELD MEASUREMENT DATA SHEET

URS Project Name: San Clemente Dam 2 Job # 26818107.00910

SITE IDENTIFICATION: LT-1 OBSERVER(s): P( ) Team: RM + JS
START DATE & TIME: 9:07 1/15/13 END DATE & TIME: 10:23 1/16/13
ADDRESS: Lot 10 on San Clemente Drive
CITY:
GPS coordinates: N- 36° 27' 36.6" W- 121° 42' 42.6"

Weather

TEMP: 52 °F HUMIDITY: 43 % R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: MPH DIR: N NE E SE S SW W NW STEADY GUSTY MPH
SKY: CLEAR SUNNY DARK PARTLY CLOUDY OVRCST FOG DRIZZLE RAIN Other:

Acoustic Measurements

INSTRUMENT: LD 820 TYPE: 1 2 SERIAL #: 1768 (blue)
CALIBRATOR: LD CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 93.9 dBA SPL POST-TEST 93.8 dBA SPL WINDSCREEN X
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

Rec #	Start Time / End Time							
1	9:07 / 10:23	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}	
/	/	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}	
/	/	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}	
/	/	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}	

COMMENTS:

Source Info and Traffic Counts

PRIMARY NOISE(S): TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER
ROADWAY TYPE:
COUNT DURATION: -MINUTE

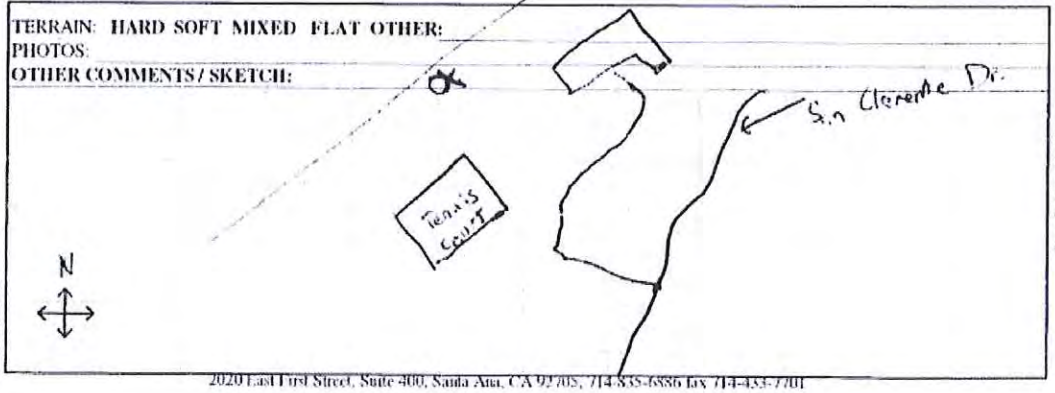
	SPEED (mph) NB / EB / SB / WB		#2 COUNT: NB / EB / SB / WB		SPEED (mph) NB EB / SB WB	
AUTOS:	/	/	/	/	/	/
MED. TRUCKS:	/	/	/	/	/	/
HVY TRUCKS:	/	/	/	/	/	/
BUSES:	/	/	/	/	/	/
MOTORCYCLES:	/	/	/	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / Sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



2020 East First Street, Suite 400, Santa Ana, CA 92705, 714-835-6886 fax 714-433-7701

FIELD MEASUREMENT DATA SHEET

URS Project Name: San Clemente Dam 2 Job # 26818107.00910

ID

SITE IDENTIFICATION: LT-2 OBSERVER(s): P( ) Team- RM
START DATE & TIME: 9:30 1/15/13 END DATE & TIME: 10:30 1/16/13
ADDRESS: Lot 1 Across the street
CITY:
GPS coordinates: N- 36° 27' 05.5" W- 121° 42' 57.8"

Weather

TEMP: 52 °F HUMIDITY: 73 % R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: MPH DIR: N NE E SE S SW W NW STEADY GUSTY MPH
SKY: CLEAR SUNNY DARK PARTLY CLOUDY OVRCST FOG DRIZZLE RAIN Other:

Acoustic Measurements

INSTRUMENT: LD 820 TYPE: 1 2 SERIAL #: 1528 red
CALIBRATOR: LD CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 94.3 dBA SPL POST-TEST 94.3 dBA SPL WINDSCREEN X
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

Rec #	Start Time / End Time	
/	9:30 / 10:30	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,

COMMENTS:

Source Info and Traffic Counts

PRIMARY NOISE(S): TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER
ROADWAY TYPE:

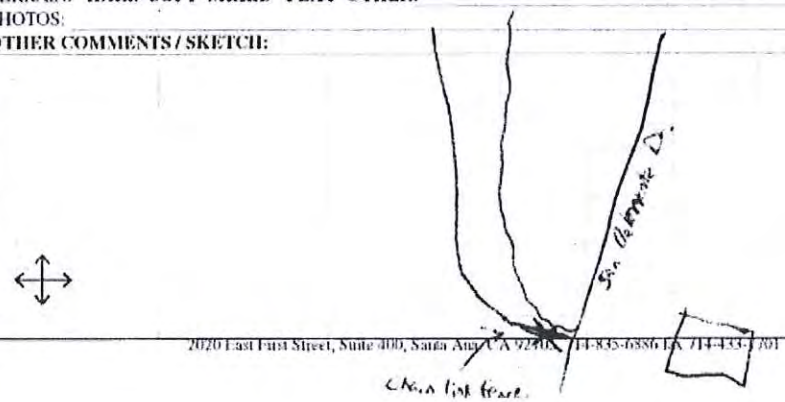
COUNT DURATION: -MINUTE	SPEED (mph) NB / EB / SB / WB	NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	/	/	/	/
MED. TRUCKS:	/	/	/	/
HVY TRUCKS:	/	/	/	/
BUSES:	/	/	/	/
MOTORCYCLES:	/	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / Sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



2020 East First Street, Suite 400, Santa Ana, CA 92705 714-835-6886 FX 714-433-7401

FIELD MEASUREMENT DATA SHEET

URS

Project Name: San Clemente Dam 2 Job # 26818107.00910

ID

SITE IDENTIFICATION: LT-3 OBSERVER(s): P( ) Team- RM
START DATE & TIME: 10:30 1/15/13 END DATE & TIME: 11:00 1/16/13
ADDRESS: 220 Vista Verde
CITY:
GPS coordinates: N- 36° 27' 48.7" W- 121° 42' 37.3"

Weather

TEMP: 52 °F HUMIDITY: 43 % R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED: MPH DIR: N NE E SE S SW W NW STEADY GUSTY MPH
SKY: CLEAR SUNNY DARK PARTLY CLOUDY OVRCST FOG DRIZZLE RAIN Other:

Acoustic Measurements

INSTRUMENT: LD 820 TYPE: 1/2 SERIAL #: 1597 green
CALIBRATOR: LD CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 93.9 dBA SPL POST-TEST 94.1 dBA SPL WINDSCREEN X
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

Rec #	Start Time / End Time	
/	10:30 / 11:00	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,
/	/	L_{eq} , L_{max} , L_{min} , L_{90} , L_{50} , L_{10} ,

COMMENTS:

Source Info and Traffic Counts

PRIMARY NOISE(S): TRAFFIC AIRCRAFT RAIL INDUSTRIAL AMBIENT OTHER
ROADWAY TYPE:

COUNT DURATION: -MINUTE	SPEED (mph)	#2 COUNT:	SPEED (mph)
	NB / EB / SB / WB	NB EB / SB WB	NB / EB / SB / WB	NB EB / SB WB
AUTOS:	/	/	/	/
MED. TRUCKS:	/	/	/	/
HVY TRUCKS:	/	/	/	/
BUSES:	/	/	/	/
MOTORCYCLES:	/	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / Sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:

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FIELD MEASUREMENT DATA SHEET

URS Project Name: San Clemente Dam 2 Job # 26818107.00910

ID

SITE IDENTIFICATION: LT-4 OBSERVER(s): P( ) Team- RM
START DATE & TIME: 10:55 1/16/13 END DATE & TIME: 11:00 1/16/13
ADDRESS: Stone Pine (East guest house)
CITY:
GPS coordinates: N- 36° 27' 35.9" W- 121° 42' 52.6"

Weather

TEMP: 52 °F HUMIDITY: 43 % R.H. WIND: (CALM) LIGHT MODERATE VARIABLE
WINDSPEED: MPH DIR: N NE E SE S SW W NW STEADY GUSTY MPH
SKY: (CLEAR) SUNNY DARK PARTLY CLOUDY OVRCST FOG DRIZZLE RAIN Other:

Acoustic Measurements

INSTRUMENT: LD 820 TYPE: (1) 2 SERIAL #: 1470 yellow
CALIBRATOR: LD CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 93.9 dBA SPL POST-TEST 94.1 dBA SPL WINDSCREEN X
SETTINGS: (A-WEIGHTED) SLOW FAST FRONTAL (RANDOM) ANSI OTHER:

Rec #	Start Time / End Time						
/	10:55 / 10:55	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}
/	11:00 / 11:00	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}
/	/	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}
/	/	L_{eq}	L_{max}	L_{min}	L_{99}	L_{50}	L_{10}

COMMENTS: landscaping near end

Source Info and Traffic Counts

PRIMARY NOISE(S): TRAFFIC AIRCRAFT RAIL INDUSTRIAL (AMBIENT) OTHER
ROADWAY TYPE:
COUNT DURATION: -MINUTE

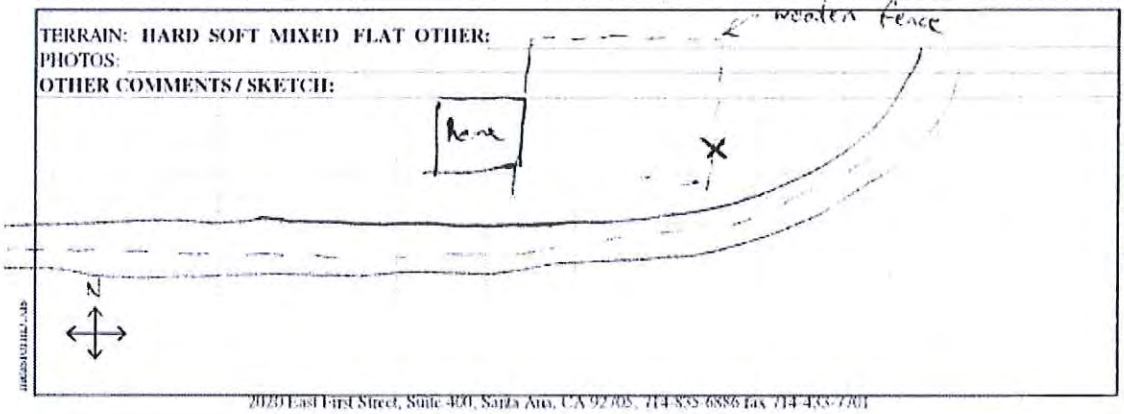
	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	/	/	/
MED. TRUCKS:	/	/	/
HVY TRUCKS:	/	/	/
BUSES:	/	/	/
MOTORCYCLES:	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / Sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS:
OTHER COMMENTS / SKETCH:



2020 East First Street, Suite 400, Santa Ana, CA 92705 714-835-6886 fax 714-433-7001

Memorandum

Date: February 5, 2013, revised April 5, 2013

To: File

From: Francesca Demgen, Jan Novak, and Katherine Dudney

Subject: **Findings of the January 17 and February 13, 2013 jurisdictional waters assessments within the Access Route Alternative Alignments of the Carmel River Reroute and San Clemente Dam Removal Project, Monterey County, California**

1.0 INTRODUCTION

This memorandum (memo) summarizes the findings of the water resource and wetland delineation surveys conducted on alternative construction access road alignments for the Carmel River Reroute and San Clemente Dam Removal (CRRDR) Project. The entrance road alignment alternatives were developed in response to public comment. The field surveys identified water resource associated features at the West Entrance Option (West 1/West 2), the East Entrance Options (East 1 and East 2), the Sleepy Hollow Ford area and the previous entrance location mapped on Figure 3-3.2 as the Proponents Proposed Project in the Carmel River Reroute and Dam Removal project described in the 2008 Final Environmental Impact Report and Environmental Impact Statement CRRDR (Entrix 2008).

On January 17, 2013 URS scientists Jan Novak (Senior Soil Scientist, Professional Wetland Scientist) and Katherine Dudney (Senior Ecologist) surveyed the area within the proposed new limits of work and evaluated potential impacts to jurisdictional state and federal waters within the proposed alternative access alignments. The riparian zone was delineated as part of this survey, even though it is not technically a "jurisdictional water". A subsequent survey for an additional alignment was performed by URS scientists Jan Novak, Keith Wright (Ecologist), and Anna Larson (Botanist) on February 13, 2013. Detailed tree data will be presented in a subsequent, companion memorandum.

The purpose of this memorandum is to:

- Delineate all jurisdictional waters that are regulated under Section 404 of the Clean Water Act (by the United States Army Corps of Engineers), Section 401 of the Clean Water Act and the Porter Cologne Act (by the Regional Water Quality Control Board), and the California Fish and Game Code – Section 1602 (by the California Department of Fish and Wildlife).
- Describe and map the survey results of the jurisdictional delineation, including wetlands, other waters of the United States (by means of the Ordinary High Water Mark [OHWM]), riparian habitat (edge of dripline), and the top of bank (TOB) boundaries.
- Update the wetland description presented in the *Carmel River Reroute and Dam Removal Project Environmental Permitting Task 3.1 Jurisdictional Delineation of Waters of the U.S. including Wetlands* (URS 2011).

2.0 SURVEY RESULTS

The survey methodology was consistent with prior field efforts for this project and as described in *Carmel River Reroute and Dam Removal Project Environmental Permitting Task 3.1 Jurisdictional Delineation of Waters of the U.S. including Wetlands* (URS 2011). In short, field recorded horizontal coordinates were mapped to define the spatial position and limits of Ordinary High Water Mark, Riparian Zone and Top of Bank. In some locations density of poison oak brambles prevented access and points were estimated from a recorded GPS position. Survey results are shown in Figure 1 and described in Section 2.1. Section 2.2 reports the field sampling results collected at the wetland data point locations. The data included in this memo is based on conceptual plan drawings and survey stakes defining potential work limits as of the January 17, 2013 survey date.

2.1 WEST ENTRANCE OPTIONS

The West Entrance Options (West 1 and West 2) span Tularcitos Creek in the same project footprint (limit of work). West 1/West 2 would include building an access road to East Carmel Valley Road and a multiple span bridge over Tularcitos Creek. After the bridge, the two potential alignments diverge, to identify routes that minimize natural resource impacts. West 1 runs south/southeast from the bridge crossing; West 2 follows the ridgeline southeast before merging with a dirt road, which runs southwest. Both alignments merge at Filter Plant Road. No jurisdictional features were found outside of the Tularcitos Creek crossing. The features described below are mapped on Figure 1 detail box A.

2.1.1 Ordinary High Water Mark

Tularcitos Creek is a perennial water feature tributary to the Carmel River. In the crossing area, the narrow channel is confined by its incised position at the base of a steep ravine. The overall stream channel gradient is low, and the creek bed material consists primarily of sand and gravel. OHWM was mapped based on wrack material found in the riparian trees as well as water marks on the concrete pillar on the north side of the creek.

2.1.2 Riparian

Surrounding the Tularcitos Creek West Crossing, the vegetation is characterized by an open canopy dominated by black cottonwood (*Populus trichocarpa*; form. *P. balsamifera* subsp. *trichocarpa*) and white alder (*Alnus rhombifolia*). The understory is sparse and composed of willows (*Salix* sp.), poison oak (*Toxicodendron diversilobum*), and snowberry (*Symphoricarpos mollis*).

2.1.3 Top of Bank

At the West Entrance crossing, Tularcitos Creek is a single narrow channel within a steep ravine. TOB was delineated at the point on either side of the ravine where the slope flattened out (the hinge point).

2.2 EAST ENTRANCE OPTION 1

The East 1 Option off East Carmel Valley Road would include building an access road to and a clear span bridge over Tularcitos Creek. The feature described below is mapped on Figure 1 detail box C.

2.2.1 Ordinary High Water Mark

Within the work limits of the East 1 crossing, Tularcitos Creek winds through a moderately broad floodplain; the active channel lies between a series of shallow terraces; it is bordered to the southwest by a relatively steep slope and to the northeast by an equally steep, albeit shorter slope. Tularcitos creek is a single–channel and the creek bed consists of sandy and gravelly material; the creek flow was three to four feet wide. The gradient is low and the creek is surrounded by dense vegetation. For the OHWM analysis, a path was cut through the dense riparian vegetation by a vegetation-removal team. The channel morphology was significantly more apparent once all riparian vegetation had been removed. OHWM was identified by URS biologists based on the location of rack material and water marks on the riverbank. The location of the OHWM was shown to Bestor surveyors, who recorded its location with survey-grade GPS equipment.

2.2.2 Riparian

At East 1, Tularcitos Creek flows through a riparian forest characterized by a continuous, high canopy formed by large trees that include white alder, Califoruia sycamore (*Platanus racemosa*), and black cottonwood. California buckeye (*Aesculus californica*) and California bay (*Umbellularia californica*) are also found in this riparian forest. The dense understory surrouuding the creek, and underlying the high canopy, consists of dense thickets of poison oak, California blackberry (*Rubus ursinus*), and willows.

2.2.3 Top of Bank

Top of bank was well defined and easily visible, once the cross section of vegetation had been removed. It was recorded by surveyors with survey-grade GPS equipment.

2.3 EAST ENTRANCE OPTION 2

The East 2 Option off East Carmel Valley Road would include building an access road to and a clear span bridge over Tularcitos Creek. The features described below are mapped on Figure 1 detail box D.

2.3.1 Ordinary High Water Mark

Within the work limits of the East Entrance crossing, Tularcitos Creek winds through a broad floodplain, bordered to the southwest by a relatively steep slope and to the northeast by a more gradual slope. An ephemeral drainage parallels the northeast limit of work adjacent to the potential

intersection of the access road with East Carmel Valley Road. Tularcitos creek is a single–channel and the creek bed is sandy and gravelly material. The gradient is low and the creek is surrounded by dense vegetation. OHWM on the west slope was delineated based on the approximate location of the creek channel as seen from the forested slopes. The slopes gradually descend to a hinge point after which they steeply slope towards the creek. OHWM on the east slope was delineated by URS biologists using a GPS unit and marking the location on a figure for future aerial interpretation. OHWM was also delineated for the ephemeral drainage.

2.3.2 Riparian

At the East Crossing, Tularcitos Creek flows through a riparian forest characterized by a continuous, high canopy formed by large trees that include white alder, California sycamore , and black cottonwood. Coast live oak, California buckeye, and California bay are also found in this riparian forest. Immediately adjacent to the creek, the canopy opens up and the understory is dominated by dense thickets of poison oak, California blackberry , and willows. Bracken fern (*Pteridium aquilinum* var. *pubescens*) is abundant.

2.3.3 Top of Bank

The dense riparian understory surrounding Tularcitos Creek extends beyond the east TOB location within the East Entrance Crossing Limits of Work. The hinge point was barely visible through vegetation. TOB is relatively close to the OHWM, based on the steep nature of the slope. TOB for the west location was delineated with a GPS unit and marked on a figure for future aerial interpretation by a URS biologist. TOB was also delineated for the ephemeral drainage.

2.4 SLEEPY HOLLOW FORD

A temporary bridge may be placed during non-rainy season to span the Carmel River at the Sleepy Hollow Ford. The features described below are mapped on Figure 1 detail box E.

2.4.1 Ordinary High Water Mark

Sleepy Hollow Ford crosses the Carmel River approximately a mile downstream of the dam. When the reservoir is full, commonly in the rainy season, Carmel River flow depends on storm events and watershed discharge. River bed substrate surrounding the concrete ford is comprised of boulders, some embedded in sand. The Carmel River is braided in this location, several side channels are located south of the ford. The OHWM was determined based on vegetative wrack material entrained in the adjacent riparian trees.

2.4.2 Riparian

The vegetation in the vicinity of the Sleepy Hollow Ford is an open riparian forest comprised of medium to large trees with a relatively sparse understory. The riparian community is dominated by white alder and black cottonwood, intermixed with red willow (*Salix laevigata*), California sycamore

and California bay (*Umbellularia californica*). Tall flatsedge (*Cyperus eragrostis*) is the predominant, herbaceous component of the understory community.

A wetland data point (Wetland Data Point 1) was recorded on the south side of the Carmel River at the Sleepy Hollow Ford and is addressed in Section 2.5.1. The area did not qualify as a Corps three-parameter wetland. The riparian area north of the Carmel River was considered sufficiently addressed as not meeting the Corps' three-parameter wetland criteria by this data sheet determination.

2.4.3 Top of Bank

The TOB extends beyond the active channel in this area to include several side channels and islands. This is mainly due to signs of flooding beyond the active channel. Within the southern limit of work, it approximately parallels the dirt road leading to the fish hatchery. Within the northern limit of work, there is a steep hillside leading away from the river. In this area, the extent of the riparian zone was used to inform the placement of the TOB.

2.5 WETLAND DATA POINTS

Three sampling points were evaluated with respect to Corps' jurisdictional wetlands criteria within the limit of work (Attachment 1). Data points were only taken in locations with both > 5% hydric vegetation and soil/hydrology conditions that could meet Corps criteria. As such, no delineation points were recorded along the Tularcitos Creek riparian corridor, as the soils were too sandy and the hydrology too ephemeral to provide the minimum 5% saturation during the growing season. Two of the three points did not meet the three-parameter wetland criteria. The third sampling point was determined to be within a wetland.

2.5.1 Wetland Data Point 1 (Sleepy Hollow Ford)

Wetland Data Point 1 was taken within the OHWM to the south of the Sleepy Hollow Ford, within an area of sand accumulation and a population of obligate, hydric sedges. The site had a 5% slope and is downstream from the San Clemente Dam which affects flow seasonally. The dominant vegetation included white alder, sycamore, slough sedge (*Carex obnupta*), braken fern, and California blackberry. Of these five dominant species, three are hydric, indicating the presence of hydrophytic vegetation.

The soil profile was characterized by two horizons below an organic layer of decomposing leaves. The top horizon (0-3") was composed of course sand and the matrix of the second horizon (3-18") consisted of 10YR 3/2 loamy sand. No redoximorphic features were present within the soil matrix. No hydric soil indicators were present. Below eighteen inches, the profile is underlain by gravel.

No wetland hydrology indicators were present, as indicated by the absence of surface water, a detectable water table, and soil saturation. Although the site lies within the OHWM, the soils are too

porous to remain saturated for the minimum 5% of the growing season (18 days). Therefore, this area receives flood water but not sufficient inundation to meet wetland criteria.

Since the site met the hydric vegetation criteria but did not meet the hydric soils and hydrology criteria, the site did not qualify as a wetland. Additional test pits were dug in the area, but they did not meet hydric soil or wetland hydrology criteria. As such, no additional wetland data points were recorded in this area.

2.5.2 Wetland Data Point 2

Wetland data point 2 was taken within the West Entrance Option alignment, on the south side of the ridge bordering Tularcitos Creek in riparian scrub dominated by four species: arroyo willow (*Salix lasiolepis*), coyote brush (*Baccharis pilularis* subsp. *consanguinea*), poison oak, and Santa Barbara sedge (*Carex barbarae*). Since only two of the four dominant species were hydric, the vegetation did not meet the dominance test for the presence of hydrophytic vegetation.

The soil profile was comprised of two inches of 10YR 2/2 loam and 16 inches of brownish fine sand. Neither horizon exhibited redoximorphic features; no other hydric soil indicator was present.

No wetland hydrology was present at wetland data point 2. The soil was slightly moist but no surface water, soil saturation, or water table was present. This site, with its permeable soils, does not appear to have sufficient waters inputs to be saturated for the minimum 5% of the growing season.

Since the site did not meet the hydric vegetation, hydric soils and hydrology criteria, the site did not qualify as a wetland.

2.5.3 Wetland Data Point 3 and Non-Jurisdictional Swale

Wetland Data Point 3 was taken within a swale in the East Entrance Option alignment, upstream from standing water. The area met criteria for wetland vegetation and exhibited indicators of hydric soils and wetland hydrology. This wetland had not previously been mapped in this project limit of work. The features described below are mapped on Figure 1 detail box B.

The vegetation at Wetland Data Point 3 was dominated by herbaceous plants, mixed with arroyo willow. In addition to arroyo willow, the dominant species included Santa Barbara sedge and beardless wildrye (*Elymus eragrostis*). All three of these species are hydric and the vegetation passed the Dominance Test for the presence of hydrophytic vegetation.

The top 18" of the soil profile were not stratified and the single horizon was composed of a sand matrix which qualified as a hydric soil based on the presence of indicator S5 (Sandy Redox). The redoximorphic feature concentrations made up 5% of the soil matrix and had a color of 10YR 4/6.

Wetland hydrology was present at the site. The high water table was present at 4" and saturation was observed throughout the profile.

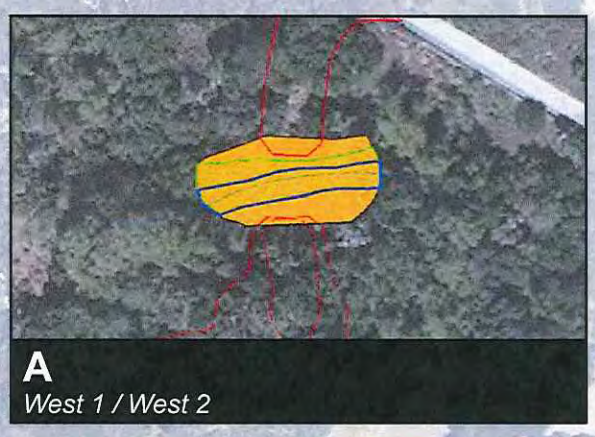
All three wetland criteria were met, qualifying this area as a wetland. A polygon was mapped around the wetland area, although it is located mainly outside of the limit of work. The wetland area within these limits of work is 388 square feet.

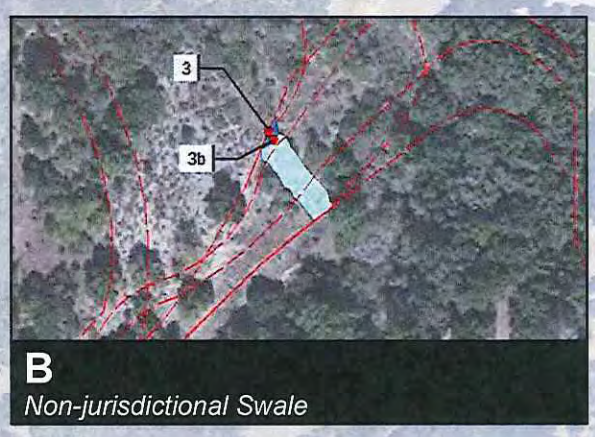
The wetland was within the low portion of a swale, which continues towards the limit of work area (the limit of work area lies at a higher elevation than the swale). The swale did not exhibit an ordinary high water mark and no saturation was found in the higher elevation areas of the swale. As such, it is not expected to meet state or federal jurisdictional criteria.

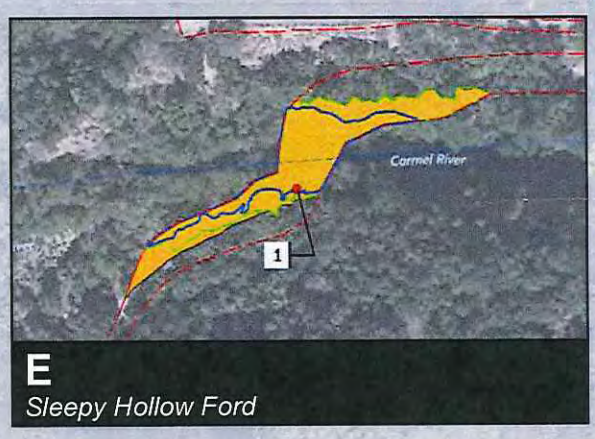
2.6 CONCLUSION

Four crossings of jurisdictional waters occur within the limit of work, West 1/West 2, East 1, East 2, and the Sleepy Hollow Ford Crossing. The OHWM, Riparian Zone and TOB were marked for all four areas.

Three wetland data points were collected, one of which meet the Corps' wetland criteria. A wetland polygon was created around this area and the access road design was adjusted to avoid impacting this wetland. The adjacent swale, however, was not jurisdictional.







URS Oakland CA - B. Greer - L:\Projects\San_Clemente_Dam_Removal\Maps\Wetland_Delineation\Figure_1_Wetland_Other_Features_11x17-B.mxd

	Project No. 26818107	**Tularcitos Access Road Alternative** Jurisdictional Waters, January 17, 2013	Figure 1
	CARMEL RIVER REROUTE & SAN CLEMENTE DAM REMOVAL PROJECT		

ATTACHMENT 1

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: /01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: 1
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: ____
Landform (hillslope, terrace, etc.): river's edge | Local relief (concave, convex, none): ____ | Slope (%): 5
Subregion (LRR): LRR C | Lat: ____ | Long: ____ | Datum: ____
Soil Map Unit Name: ____ | NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐			
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐**	**No ☒**
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Downstream of dam, water flow is manipulated (controlled release).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30' rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rhombifolia*	60	yes	FACW
2. *Platanus racemosa*	20	yes	FAC
3. ____	____	____	____
4. ____	____	____	____
50% = 40, 20% = 16	____	= Total Cover	
Sapling/Shrub Stratum (Plot size:____)			
1. ____	____	____	____
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
50% = ____, 20% = ____	____	= Total Cover	
Herb Stratum (Plot size:5sq ft)			
1. *Carex obnupta*	30	yes	OBL
2. *Pteridium aquilinum var. pubescens*	10	yes	FACU
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
50% = 20, 20% = 8	____	= Total Cover	
Woody Vine Stratum (Plot size:10sq ft)			
1. *Rubus ursinus*	8	yes	FACU
2. ____	____	____	____
50% = 4, 20% = 2	____	= Total Cover	
% Bare Ground in Herb Stratum ____	% Cover of Biotic Crust ____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	60	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	____	x1 =	____
FACW species	____	x2 =	____
FAC species	____	x3 =	____
FACU species	____	x4 =	____
UPL species	____	x5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0.25-0	_____	_____	_____	_____	_____	_____	_____	organic matter - leaves semi-decomposed
0-3	n/a	100	-	-	-	-	sand	coarse
3-18	10YR 3/3	100	-	-	-	-	LS	_____
18+	_____	_____	_____	_____	_____	_____	gravel	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks: Sand deposit on river bank; insufficient saturation for hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Within OHWM, unlikely to get 5% minimum continuous saturation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: /01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: WL2
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ | Local relief (concave, convex, none): _____ | Slope (%): _____
Subregion (LRR): LRR C | Lat: _____ | Long: _____ | Datum: _____
Soil Map Unit Name: _____ | NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒		
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **In Carex/ willow meadow; most depressed point in extended vegetation community.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30' rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	30	yes	FACW
2. *Aesculus californica*	5	no	-
3. _____	_____	_____	_____
4. _____	_____	_____	_____
50% = 18, 20% = 7	35	= Total Cover	
Sapling/Shrub Stratum (Plot size:15' rad)			
1. *Baccharis pilularis subsp. consanguinea*	20	yes	-
2. *Toxicodendron diversilobum*	5	yes	-
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
50% = 13, 20% = 5	25	= Total Cover	
Herb Stratum (Plot size:5' rad)			
1. *Carex barbarae*	40	yes	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
50% = 20, 20% = 8	40	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

Project Site: _____

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10 YR 2/2	100	-	-	-	-	L	_____
2-18	n/a	100	-	-	-	-	FS	brownish; NRMF

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks: No hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology present.

ATTACHMENT 1

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: /01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: 1
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: ____
Landform (hillslope, terrace, etc.): river's edge | Local relief (concave, convex, none): ____ | Slope (%): 5
Subregion (LRR): LRR C | Lat: ____ | Long: ____ | Datum: ____
Soil Map Unit Name: ____ | NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐			
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	Yes ☐	No ☒
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: Downstream of dam, water flow is manipulated (controlled release).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30' rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rhombifolia*	60	yes	FACW
2. *Platanus racemosa*	20	yes	FAC
3. ____	____	____	____
4. ____	____	____	____
50% = 40, 20% = 16	____	= Total Cover	
Sapling/Shrub Stratum (Plot size:____)			
1. ____	____	____	____
2. ____	____	____	____
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
50% = ____, 20% = ____	____	= Total Cover	
Herb Stratum (Plot size:5sq ft)			
1. *Carex obnupta*	30	yes	OBL
2. *Pteridium aquilinum var. pubescens*	10	yes	FACU
3. ____	____	____	____
4. ____	____	____	____
5. ____	____	____	____
6. ____	____	____	____
7. ____	____	____	____
8. ____	____	____	____
50% = 20, 20% = 8	____	= Total Cover	
Woody Vine Stratum (Plot size:10sq ft)			
1. *Rubus ursinus*	8	yes	FACU
2. ____	____	____	____
50% = 4, 20% = 2	____	= Total Cover	
% Bare Ground in Herb Stratum ____	% Cover of Biotic Crust ____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	____	x1 =	____
FACW species	____	x2 =	____
FAC species	____	x3 =	____
FACU species	____	x4 =	____
UPL species	____	x5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site: _____

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0.25-0	_____	_____	_____	_____	_____	_____	_____	organic matter - leaves semi-decomposed
0-3	n/a	100	=	=	=	=	sand	coarse
3-18	10YR 3/3	100	=	=	=	=	LS	_____
18+	_____	_____	_____	_____	_____	_____	gravel	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks: Sand deposit on river bank; insufficient saturation for hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Within OHWM, unlikely to get 5% minimum continuous saturation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: /01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: WL2
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ | Local relief (concave, convex, none): _____ | Slope (%): _____
Subregion (LRR): LRR C | Lat: _____ | Long: _____ | Datum: _____
Soil Map Unit Name: _____ | NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐**	**No ☒**
Wetland Hydrology Present?	Yes ☐	No ☒			

Remarks: **In Carex/ willow meadow; most depressed point in extended vegetation community.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30' rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	30	yes	FACW
2. *Aesculus californica*	5	no	-
3. _____	_____	_____	_____
4. _____	_____	_____	_____
50% = 18, 20% = 7	35	= Total Cover	
Sapling/Shrub Stratum (Plot size:15' rad)			
1. *Baccharis pilularis subsp. consanguinea*	20	yes	-
2. *Toxicodendron diversilobum*	5	yes	-
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
50% = 13, 20% = 5	25	= Total Cover	
Herb Stratum (Plot size:5' rad)			
1. *Carex barbarae*	40	yes	FAC
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
50% = 20, 20% = 8	40	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

Project Site: _____

Sampling Point: 2

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]		
0-2	10 YR 2/2	100	=	=	=	=	L	
2-18	n/a	100	=	=	=	=	FS	brownish; NRMF

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☐ No ☒

Remarks: No hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: 01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: WL3
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ | Local relief (concave, convex, none): concave | Slope (%): _____
Subregion (LRR): LRR C | Lat: _____ | Long: _____ | Datum: _____
Soil Map Unit Name: _____ | NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	Yes ☒ No ☐
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **In Carex/ willow meadow; most depressed point in extended vegetation community.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	10	yes	FACW
2. _____			
3. _____			
4. _____			
50% = _____, 20% = _____		= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
50% = _____, 20% = _____		= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Carex barbarae*	60	yes	FAC
2. *Polypogon monspeliensis*	10		FACW
3. *Geranium dissectum*	5		-
4. *Erodium botrys*	5		FACU
5. *Elymus triticoides*	50	yes	FAC
6. *Cyperus eragrostis*			FACW
7. _____			
8. _____			
50% = 65, 20% = 26	130	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____			
2. _____			
50% = _____, 20% = _____		= Total Cover	
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust	_____

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	_____	x1 =	_____
FACW species	_____	x2 =	_____
FAC species	_____	x3 =	_____
FACU species	_____	x4 =	_____
UPL species	_____	x5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site: _____

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	-	-	5	10YR 4/6	C	M	sand	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☐	Depth (inches): _____
Water Table Present?	Yes	☒	No	☐	Depth (inches): 4"
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches): 0"

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Swale with standing water downstream, high water table/ saturation at our location.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: 01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: WL3B
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: ____
Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): concave | Slope (%):
Subregion (LRR): LRR C | Lat: ____ | Long: ____ | Datum: ____
Soil Map Unit Name: ____ | NWI classification: ____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐		
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **In Carex/ willow meadow; upland counterpoint for the depressed point in extended vegetation community.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	10	yes	FACW
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
50% = ____, 20% = ____		= Total Cover	
Herb Stratum (Plot size:)			
1. *Carex barbarae*	10	no	FAC
2. *Polypogon monspeliensis*	10	no	FACW
3. *Geranium dissectum*	5	no	-
4. *Erodium botrys*	5	no	FACU
5. *Elymus triticoides*	50	yes	FAC
6. *Cyperus eragrostis*			FACW
7.			
8.			
50% = 40, 20% = 16	80	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
50% = ____, 20% = ____		= Total Cover	
% Bare Ground in Herb Stratum ____	% Cover of Biotic Crust ____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species	____	x1 =	____
FACW species		x2 =	
FAC species	____	x3 =	____
FACU species	____	x4 =	____
UPL species	____	x5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site: ____

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	-	-	____	____	____	____	sand	____
			____	____	____	____		____
	____	____	____	____	____	____		____
____	____	____	____	____	____	____	____	____
____	____	____	____	____	____	____	____	____

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ____

Depth (Inches): ____

Hydric Soils Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☐	Depth (inches): ____
Water Table Present?	Yes	☒	No	☐	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches): ____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Upland point of swale with standing water downstream; no hydrology indicators in our location

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: San Clemente | City/County: Carmel Valley/Monterey | Sampling Date: 01/17/2013
Applicant/Owner: Cal Am/ CCC | State: CA | Sampling Point: WL3
Investigator(s): Jan Novak/ Katie Dudney | Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ | Local relief (concave, convex, none): concave | Slope (%): _____
Subregion (LRR): LRR C | Lat: _____ | Long: _____ | Datum: _____
Soil Map Unit Name: _____ | NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☒**	**No ☐**
Hydric Soil Present?	Yes ☒	No ☐			
Wetland Hydrology Present?	Yes ☒	No ☐			

Remarks: **In Carex/ willow meadow; most depressed point in extended vegetation community.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	10	yes	FACW
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
Herb Stratum (Plot size:_____)			
1. *Carex barbarae*	60	yes	FAC
2. *Polypogon monspeliensis*	10	_____	FACW
3. *Geranium dissectum*	5	_____	-
4. *Erodium botrys*	5	_____	FACU
5. *Elymus triticoides*	50	yes	FAC
6. *Cyperus eragrostis*	_____	_____	FACW
7. _____	_____	_____	_____
8. _____	_____	_____	_____
50% = 65, 20% = 26	130	= Total Cover	
Woody Vine Stratum (Plot size:_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
50% = _____, 20% = _____	_____	= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

	Total % Cover of :	Multiply by:
OBL species	_____	x1 = _____
FACW species	_____	x2 = _____
FAC species	_____	x3 = _____
FACU species	_____	x4 = _____
UPL species	_____	x5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

Project Site: _____

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	-	-	5	10YR 4/6	C	M	sand	

[1]Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	☐	No	☐	Depth (inches):	_____
Water Table Present?	Yes	☒	No	☐	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches):	0"

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Swale with standing water downstream, high water table/ saturation at our location.

Memorandum

Date: February 15, 2013, revised April 5, 2013

To: Project Team

From: URS:
Francesca Demgen, Katherine Dudney, Letty Brown, Anna Larsen, Michael Carbiener,

Subject: **Findings of the vegetation, tree inventory, and wildlife field surveys within the Access Route Alternative Alignments of the Carmel River Reroute and San Clemente Dam Removal Project, Monterey County, California**

INTRODUCTION

This memorandum (memo) summarizes the findings of the vegetation, tree count, and wildlife surveys conducted on alternative construction access road alignments for the Carmel River Reroute and San Clemente Dam Removal (CRRDR) Project. The alternative entrance road alignments were developed in response to public comment. The field surveys identified vegetation communities, specific trees and wildlife features at the West Entrance Option, the East Entrance Option, the pipeline route option (between the west and east options), the Sleepy Hollow Ford area, and the entrance location mapped on Figure 3.2-2 for the Proponents Proposed Project in the 2008 Final Environmental Impact Report and Environmental Impact Statement for the San Clemente Dam Seismic Safety Project (2008 FEIR/EIS) (Entrix 2008).

Field surveys for wildlife and wildlife habitat were conducted on January 16, 2013 by URS scientists Mike Carbiener (Senior Wildlife Biologist) and Derek Jansen (Wildlife Biologist). Vegetation community and tree count surveys were performed on January 17—18, 2013 by URS scientists Letty Brown (Forest Scientist, County-approved Certified Arborist), Keith Wright (Landscape Designer/Restoration Ecologist), Anna Larsen (Botanist), and Ryan Gilpin of HortScience, Inc.

The purpose of this memorandum is to present the results of the field surveys for plant communities, protected tree species, and wildlife species and habitat. These data will inform a comparison of alternative construction access route alignments for environmental compliance documents and future construction design.

VEGETATION COMMUNITY SURVEY

Field surveys were conducted in 2013 to map vegetation community distribution within the new project alignments and to determine if any new vegetation communities are present in the new alignments. Vegetation community definitions used in the 2008 FEIR/EIS were consolidated to facilitate data comparison.

Methods The distribution of the vegetation communities within the project area was mapped by hand on aerial photographs based on 2013 field data. The project area is defined on Figure 1

within the red "Project area" lines. The project area delimited on Figure 1 includes multiple access alternatives, more area is evaluated than will be impacted. The vegetation maps were digitized using ESRI ArcGIS. Vegetation communities present in the project area were mapped in six categories: riparian forest/riparian scrub, oak woodlands, chaparral, non-native annual grassland, wetland, and disturbed/developed.

Results Brief descriptions of the vegetation communities are presented below and correspond to vegetation series from the 2008 EIR, Section 4.5.1. The distribution of vegetation communities in the project area are shown in Figure 1.

Riparian Forest / Riparian Scrub The 2013 vegetation survey mapped Riparian Forest and Riparian Scrub, which are at a broader classification level and include the following more specific riparian vegetation associations used in the 2008 EIR: Central Coast Cottonwood-Sycamore Riparian Forest, White Alder Riparian Forest, and the Arroyo Willow Series. Within the project area, Riparian Forest and Riparian Scrub were mapped adjacent to Tularcitos Creek and on its floodplains, including along the West and East Entrance Options. Riparian vegetation also bordered the Sleepy Hollow Ford crossing of the Carmel River and was present in the vicinity of the Sleepy Hollow Steelhead Rearing Facility.

The dominant Riparian Forest large trees include black cottonwood (*Populus trichocarpa* [form. *Populus balsamifera* subsp. *trichocarpa*]), California sycamore (*Platanus racemosa*), red willow (*Salix laevigata*), and white alder (*Alnus rhombifolia*). Arroyo willow (*Salix lasiolepis*) can be abundant and form dense thickets of riparian scrub. Coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*) are found in the ecotone between riparian forest and oak woodland. Characteristic shrub species in areas of infrequent flooding include common snowberry (*Symphoricarpos albus* var. *laevigatus*), poison-oak (*Toxicodendron diversilobium*), coyote brush (*Baccharis pilularis* subsp. *consanguinea*), and red-osier dogwood (*Cornus sericea*). Vines such as California blackberry (*Rubus ursinus*) and virgin's bower (*Clematis ligusticifolia*) were observed. The herb layer is comprised of slough sedge (*Carex barbarae*), California bee-plant (*Scrophularia californica*) stinging nettle (*Urtica dioica* ssp. *holosericea*), and Douglas' mugwort (*Artemisia douglasiana*).

Oak Woodlands The oak woodland vegetation community in the project area includes the Coast Live Oak Series and Blue Oak Series, as described in the 2008 EIR. The tree canopy is typically dense, generally exceeding 80 percent (Ecosystems West 1997). Coast live oak is the dominant tree species. Associated tree species in more diverse stands include California bay, California buckeye, madrone (*Arbutus menziesii*), and an occasional valley oak (*Quercus lobata*). Due to the dense canopy, the understory shrub layer of the coast live oak forest is typically poorly developed. Shrubs and woody vines in the understory include creeping snowberry (*Symphoricarpos mollis*), poison-oak, and California blackberry. Herb cover also is generally sparse to moderate, but includes wood fern (*Dryopteris arguta*), yerba buena (*Satureja douglasii*), and western rye grass (*Elymus glaucus*).

In upland portions of the project area, coast live oak woodland is dominant. Oak woodlands are found along the West Entrance Ridge Option, the High Road, the Filter Plant Option, and the Filter Plant Pipeline Option. Small numbers of California bay laurel, madrone, and buckeye are observed in coast live oak woodlands. A stand of blue oaks was mapped along the High Road, and corresponds to the Blue Oak Series mapped in the 2008 EIR, Figure 4.5-1.

Chaparral This vegetation community includes the Chamise, Chamise-Black Sage, and California Sagebrush series described in the 2008 EIR. Chaparral typically forms a dense, often impenetrable scrub layer that is three to ten feet in height. Herbs are generally sparse or absent except in localized openings. Chamise (*Adenostoma fasciculatum*) and black sage (*Salvia mellifera*) are the dominant species in this community. Other shrub species sometimes found in this series include jimbrush (*Ceanothus oliganthus* var. *sorediatus*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and poison oak.

Chaparral is widespread on the driest and most exposed south- and west-facing slopes in the southern half of the project area, primarily along the southern portion of the High Road. Chaparral is also present in the vicinity of the staging area at the south end of the Filter Plant Pipeline Option road.

Non-Native Annual Grassland These grasslands correspond to the California Annual Grassland Series described in the 2008 EIR and are generally dominated by non-native annual grasses and native and non-native herbs, including ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), slender wild oat (*Avena barbata*), long-beaked filaree (*Erodium botrys*), and valley lessingia (*Lessingia glandulifera*). Some stands of this community have been subject to obvious disturbances such as brush clearing and grading.

Annual grassland communities occur on a number of localized sites along roads and throughout the project area, including in the Carmel River floodplain and in upland regions.

Wetlands The project area was surveyed for water and wetland features and the results are discussed in a separate memorandum. In summary, one non-jurisdictional wetland feature occurs within the footprint of the alternative alignments and it can be avoided. The wetland is located in the southern portion of the West Entrance Ridge Option alignment. The feature is classified within the Cowardin system as a Palustrine Emergent Non-Persistent wetland. The dominant hydrophytic vegetation includes arroyo willow (*Salix lasiolepis*) with an herbaceous understory dominated by Santa Barbara sedge (*Carex barbarae*).

Developed/ Disturbed The Developed and Disturbed vegetation category is used when mapping ornamental landscaping and human disturbance. For the project area this category designates roadways, buildings and other developed facilities and associated landscaped areas. This category includes bare ground resulting from disturbances such as grading, excavating, or brush clearing. The species of vegetation in these habitats vary greatly, depending on micro-habitat conditions, disturbance, and planting history.

Figure 1, Vegetation Community Field Survey Results, January 17—18, 2013 maps these vegetation communities.

Conclusions While only the areas shown on Figure 1 were mapped during the January 17-18, 2013 site visit, aerial imagery and reconnaissance site visits suggest that the vegetation communities described in this memo also would apply to areas between the west and east alignments. Vegetation mapping is generally consistent with that provided in the 2008 FEIR/EIS which extended beyond the boundaries of the originally proposed Tularcitos Access Road.

TREE INVENTORY SURVEY

The tree inventory survey gathered data for multiple uses, as follows:

- Monterey County's protected trees are unique for each area plan (boundary mapped on Figure 1)
    - Cachagua Area Plan: oaks, Santa Lucia fir, black cottonwood, Fremont cottonwood, box elder, willow, California bay, western sycamore, redwood, and madrone
    - Greater Monterey Peninsula Area Plan: oaks, Monterey pine, and redwood.
- California Department of Fish and Wildlife's (CDFW) riparian trees: defined as species located spatially within the riparian zone and include big leaf maple, box elder, white alder, western sycamore, black cottonwood, valley oak, sandbar willow, arroyo willow, red willow, and California bay.

Trees with Monterey County protected status may also be categorized as CDFW riparian. Survey methods used in 2013 were consistent with the detailed inventory methodology for "protected trees," as defined in CRRDR Arborist Report and Forest Management Plan (AR/FMP). In summary, live protected trees with a diameter of six inches or greater at two feet above mean grade were inventoried by species and size class. Individual protected trees were mapped and assigned a unique identifier. Dead trees meeting the size requirement were inventoried. Landmark trees, defined as trees with a diameter of 24 inches at two feet above mean grade, were tagged.

For CDFW, riparian woody-stemmed plants greater than two inches in diameter at breast height (DBH) were measured and counted by species and size class as follows: 2'' to <6'', 6'' to <12'', 12''- <18'', and 18- <24''. Landmark trees (defined as trees with a DBH $\geq$ 24'') were tagged with a numerically coded tag and size (recorded to the nearest 0.1 inch) and species were recorded.

Tree inventory information was downloaded from data collection devices and data sheets and compiled in Microsoft Excel spreadsheets. Tree location maps were created in ESRI ArcMap using a combination of field maps and GPS coordinates. Where available, GPS coordinates were

uploaded and approximate locations for the remaining trees were manually plotted. The data files and map files were then merged in ESRI ArcGIS.

Results In total 1,434 trees protected by Monterey County Resource Management Agency were inventoried within the project area (Figures 2.1 and 2.2, Table 1). Of the protected trees, eighty-four percent were coast live oak, six percent were California bay, four percent were black cottonwood, and three percent were willows. The remaining species (western sycamore, madrone, Monterey pine, valley oak, and blue oak) were present in small numbers, each representing one percent or less of the protected tree population. These numbers do not represent the final number of trees that will potentially be impacted. Because multiple alignment options were surveyed for both the Entrance and the Filter Plant routes and are being compared in this memo, the total number of trees that will potentially be impacted will be smaller than those presented here.

In addition to the trees mapped for Monterey County, 650 riparian trees were inventoried using CDFW's protocol within the access route alternatives. Of these, 52 were white alder (8 percent), 564 (87 percent) were willows, and 28 (4%) were black cottonwood. Two additional small (<6' DBH) western sycamores were inventoried; one was in the West Entrance Option Alignment and one was near the Sleepy Hollow Ford. Finally, three big leaf maple and one California buckeye were inventoried. Of these additional trees, 97% were less than six inches DBH; the 19 trees greater than six inches DBH were big leaf maples or white alders which are not County-protected.

Conclusions The tree species described here are present throughout the area. While the alignments may vary in the number of trees impacted, the species impacted will be similar to those described here. These impacts are similar to those described in the 2008 FEIR/EIS for the Tularcitos Access Road.

OVERVIEW OF WILDLIFE

Within the project area, Tularcitos Creek area has suitable habitat for California Red Legged Frog (CRLF) and forest and woodlands provide suitable habitat for Monterey dusky-footed wood rats and various raptors, (passerines, and other species protected under the Migratory Bird Treaty Act [MBTA]).

- No new wildlife species of concern that were not addressed in the 2008 FEIR were observed nor their habitat mapped during the 2013 field surveys.

Methods The distribution of wood rat nests within the project area was mapped by hand in the field on aerial photographs and using a Trimble explorer GPS unit. Additionally, habitats for special status species, including passerines, raptors, and other species protected under the Migratory Bird Treaty Act, were surveyed on foot and mapped in the field by hand on aerial photographs. These photographs and maps were digitized using ESRI ArcGIS.

The habitat assessment for CRLF, Monterey dusky-footed wood rat and nesting birds is discussed below. Fisheries resources are discussed in a separate memo.

Table 1: Protected Trees Surveyed January 17-18, 2013, by Location and Size Class

Alternative	Landmark >24"							6-<24"									
	Coast live oak	Valley oak	Black cottonwood	Western sycamore	California bay	Willow spp.	Monterey pine	Coast live oak	Valley oak	Blue oak	Black cottonwood	Western sycamore	California bay	Willow spp.	Monterey pine	Madrone	Dead
West Entrance Option	18	0	0	4	1		0	74	0	0	20	3	4	33	0	0	0
East Entrance Option	17	0	1	2	0		0	100	0	0	34	3	18	10	0	0	1
West Entrance Ridge Option	21	0	0	1	0		0	105	0	0	12	0	5	11	0	0	0
Filter Plant Option	3	0	0	0	0		0	65	0	0	0	0	5	0	0	0	0
Filter Plant Pipeline Option	14	1	0	0	1		0	165	0	0	1	6	36	0	0	3	2
Other Project Components (Connectors to the Access Route Options)																	
Tularcitos Main (includes High Road)	58	2	0	1	0		3	575	3	5	2	2	19	4	1	1	9
Staging Areas	10	0	0	0	0		0	57	0	0	1	0	0	0	0	1	0

*This table divides the total trees counted into multiple construction alternatives and project components. Because some construction alternatives overlap, some trees are represented more than once in this table; thus the summed table contents is 1,555, i.e. greater than the 1,434 trees counted.

California red-legged frog

Potentially suitable aquatic and upland habitats for CRLF breeding, refugia, and dispersal occurs throughout the project area; it is most prevalent in the northern portion near Tularcitos Creek and near the Sleepy Hollow Ford. The quality of CRLF habitat within the project area varies and depends on various factors including the duration of water inundation/ponding, pond/pool structure and depth, vegetative cover (e.g., emergent, overhanging, riparian), and presence of exotic predators (e.g., bullfrog). The Carmel River may more likely be used by adults and juveniles for shelter and foraging habitat.

During 2011 surveys, algae was observed on many of these isolated ponds. Algae provides escape cover from predators and forage and cover for an insect prey base for CRLF adults.

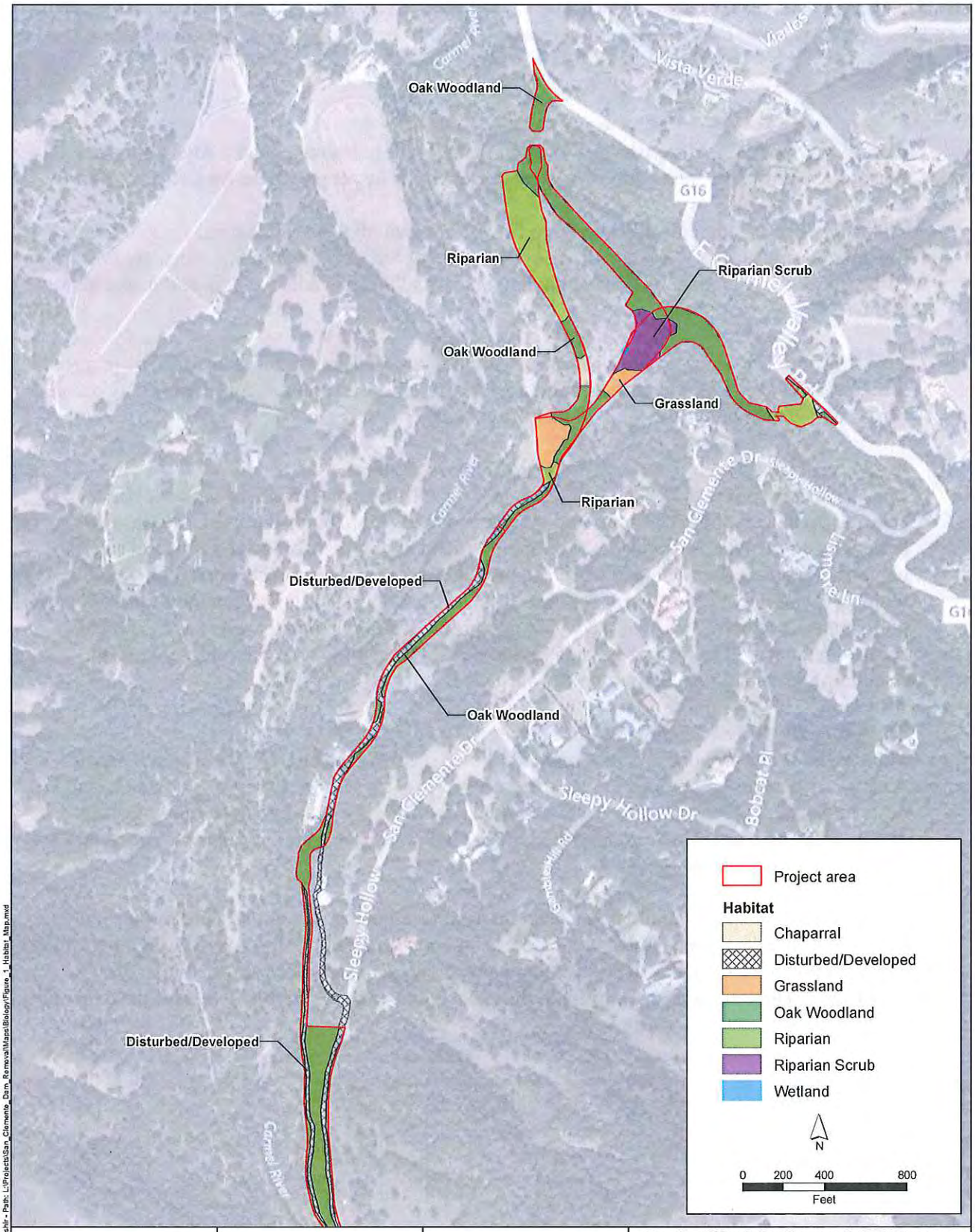
Tularcitos Creek Tularcitos Creek within the project area may provide habitat for adult and juvenile rearing during wet years. In most years, the water levels within this creek are not sufficient to provide juvenile rearing habitat, but would provide adult refugia and dispersal habitat.

Access Roads The access roads associated with the proposed action generally provide marginal dispersal habitat for CRLF. During periods of wet weather (i.e., rain or fog) CRLF may travel across upland habitats in the area of the access roads.

Monterey dusky-footed wood rat (*Neotoma fuscipes luciana*).
This subspecies of the dusky-footed wood rat is a California species of special concern. It is common to abundant in deciduous and evergreen woodland habitats that provide dense overstory and understory cover. It can also be commonly found in chaparral, coastal scrub, and riparian habitats. Wood rats build houses of sticks, bark, leaves, and other forest debris at the base of, or within the canopy of a shrub, tree, or other structure. Woodrat nests are common throughout the project area, occurring nearly everywhere that provides suitable habitat. Each of the potential access routes would have impacts on woodrat nests. Depending upon the route chosen, the number of nests that would be impacted varies.

Migratory Bird Treaty Act Protected Species
The project limits of work includes habitat for bird species protected by the Migratory Bird Treaty Act, including raptors and passerines. A pre-nesting season survey was conducted and nests mapped. A preconstruction survey will be conducted for nesting raptors and passerines. Active nests will be avoided as described in the CDFW permit (500 feet for raptor nests and 250 feet for all passerine nests).

<u>*Conclusions*</u> The species and habitats that are described here are potentially present throughout the area. While the alignments may vary in the quantity of habitat impacted (e.g., number of trees or nests removed), the types of species and habitats impacted are likely to be similar across alignments. These impacts are similar to those described in the 2008 FEIR/EIS for the Tularcitos Access Road.



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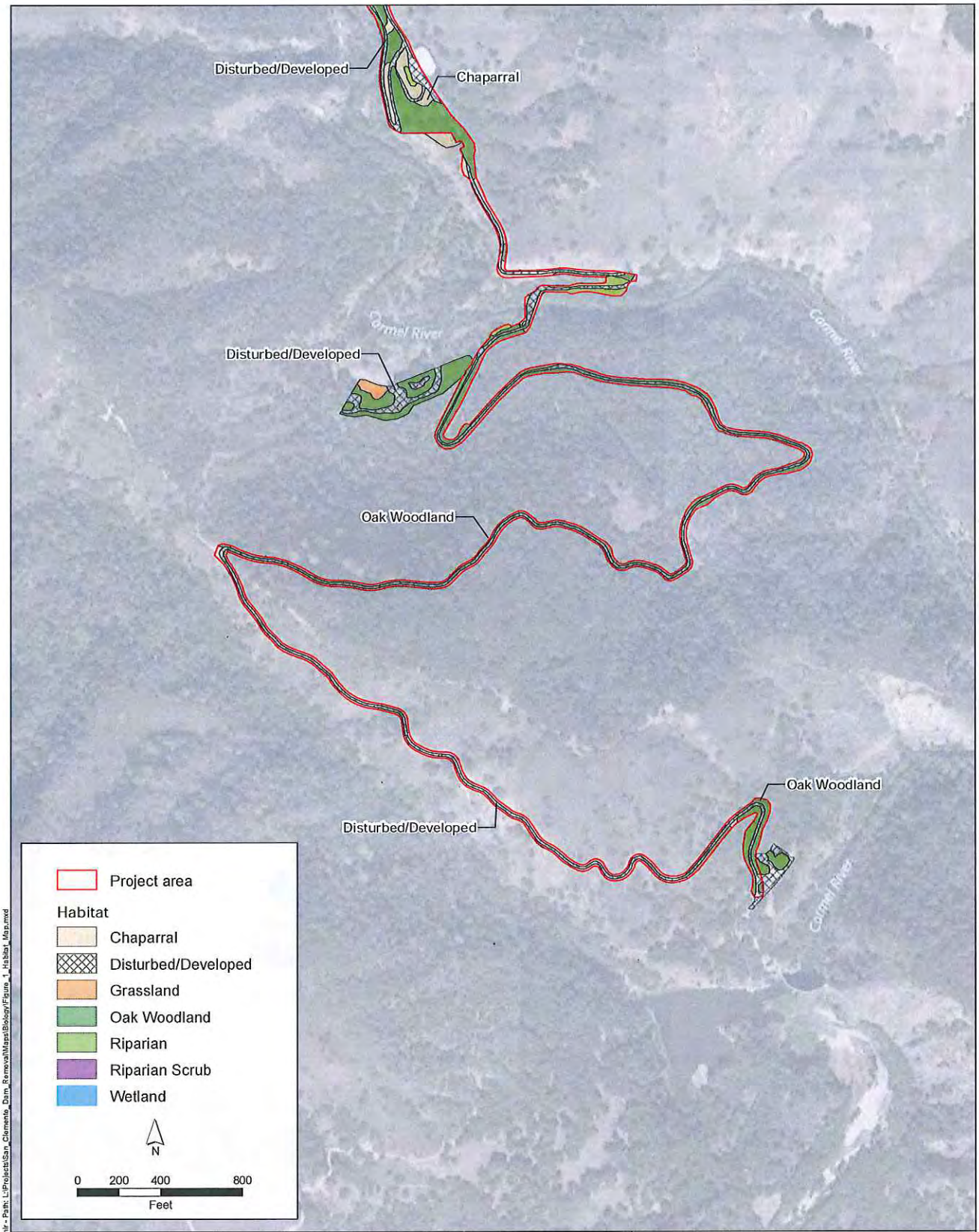
URS	CARMEL RIVER REROUTE AND SAN CLEMENTE DAM REMOVAL MONTEREY COUNTY, CA	URS PROJECT NO. 26818107	**Results of Vegetation Community Field Surveys, January 17-18, 2013** **Figure 1** **Page 1 of 2**



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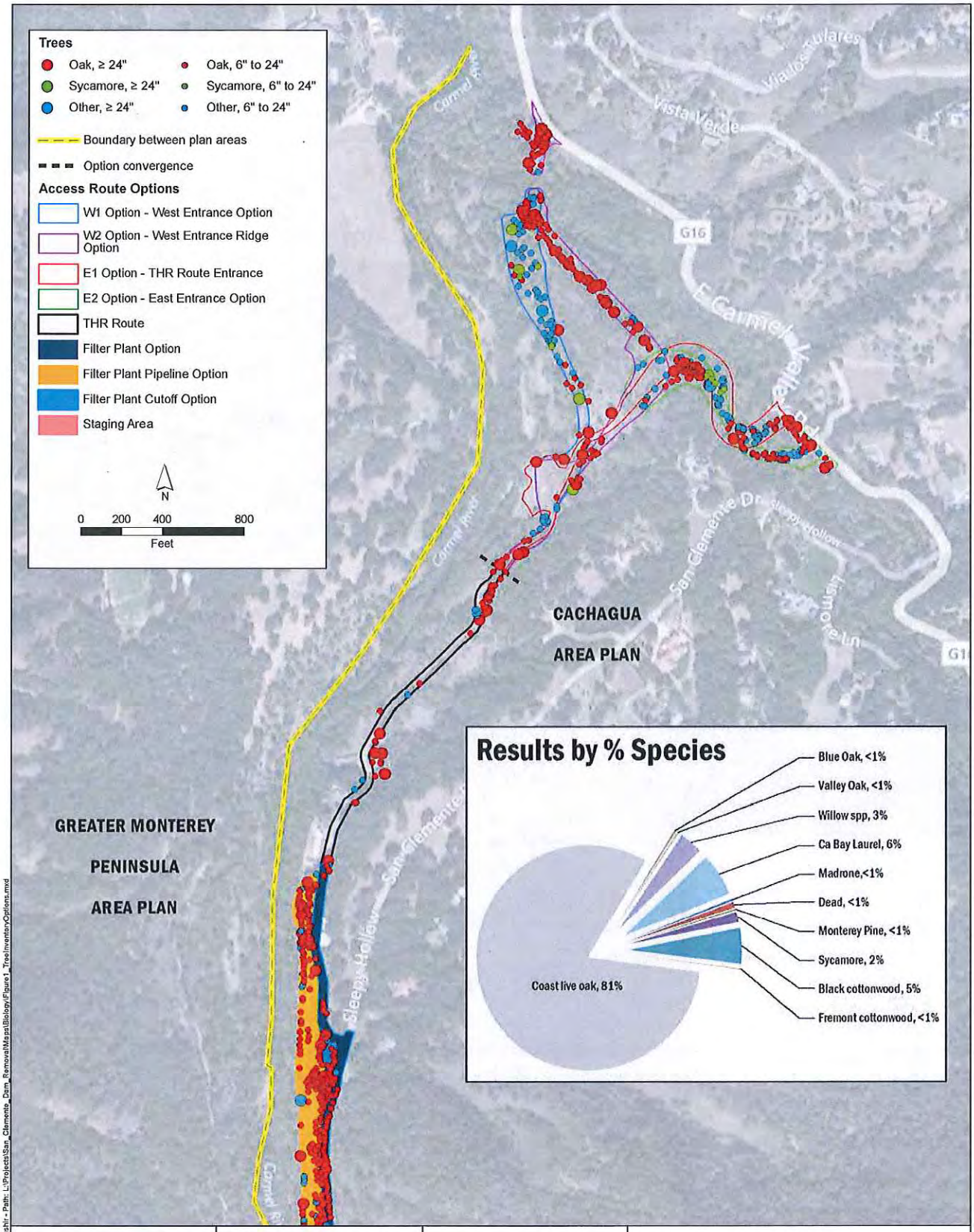
URS	CARMEL RIVER REROUTE AND SAN CLEMENTE DAM REMOVAL MONTEREY COUNTY, CA	URS PROJECT NO. 26818107	Results of Vegetation Community Field Surveys, January 17-18, 2013 Figure 1 Page 2 of 2



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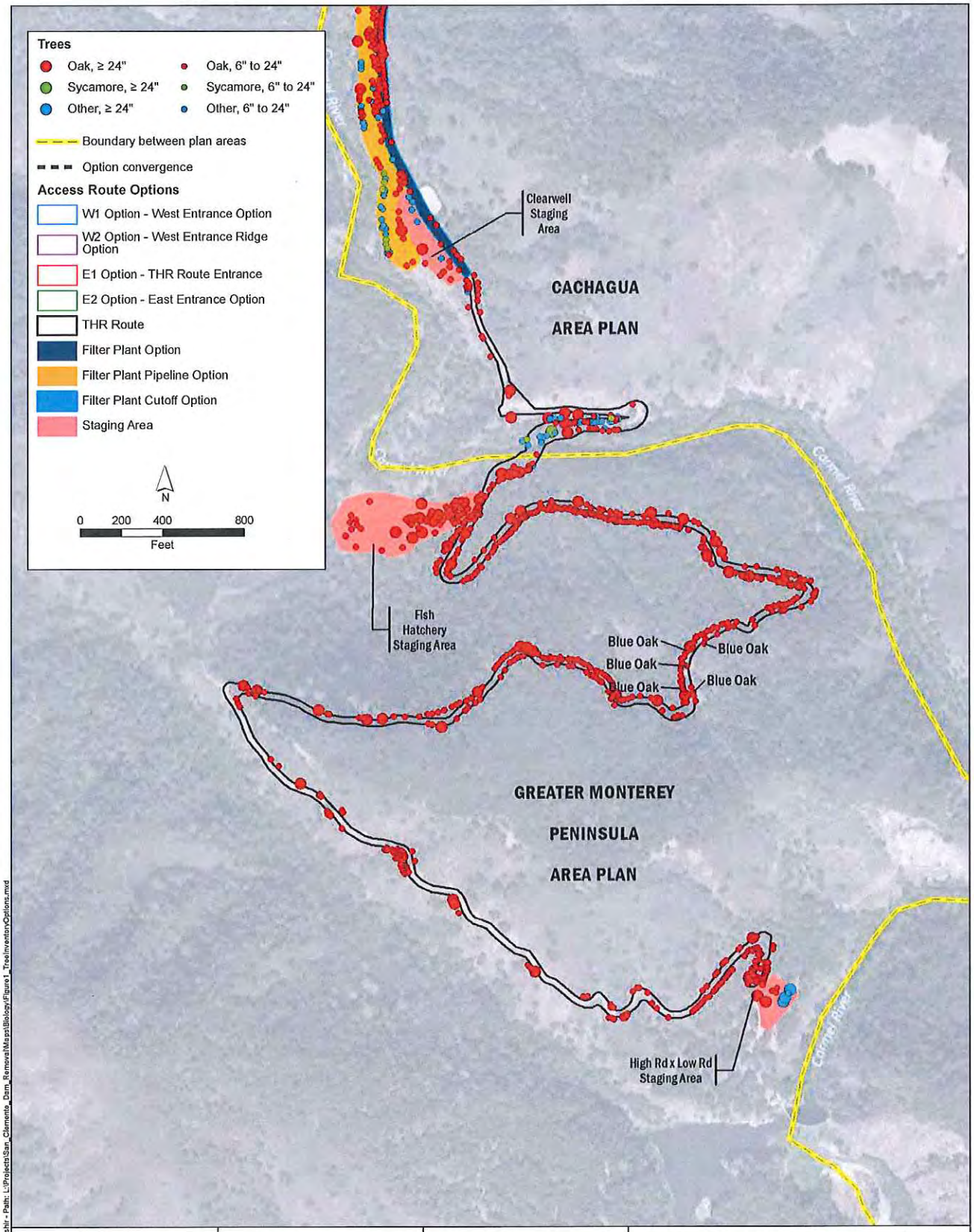
URS	CARMEL RIVER REROUTE AND SAN CLEMENTE DAM REMOVAL MONTEREY COUNTY, CA		Results of Monterey County Tree Inventory January 17-18, February 13, 2013 Figure 2a



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URS	CARMEL RIVER REROUTE AND SAN CLEMENTE DAM REMOVAL MONTEREY COUNTY, CA		**Results of Monterey County Tree Inventory January 17-18, February 13, 2013** **Figure 2b**