PROJECT STUDY REPORT
(Project Development Support)

This document can be used to program only the Engineering and Environmental Support for Project Approval and Environmental Document component. The remaining support and capital components of the project are preliminary estimates and are not suitable for programming purposes. Either a Supplement PSR or a Project Report will serve as the programming document for the remaining support and capital components of the project.

TOPANGA LAGOON BRIDGE REPLACEMENT AND LAGOON RESTORATION
On Route 1 north of Topanga Canyon Boulevard at Topanga Creek Between Malibu and Topanga Boulevard

SUBMITTED BY: Rosi Dagit
Resource Conservation District of the Santa Monica Mountains

"I have reviewed the right of way information contained in this PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT) and the Right of Way Data Sheet attached hereto, and find the data to be in conformance with current applicable State standards and practices.

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APPROVAL RECOMMENDED BY: Syed Haq - Project Manager

APPROVED BY: Douglas Failing - District Director 3-16-04
DATE
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

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TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

This Project Study Report (Project Development Support) has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

[Signature]
REGISTERED CIVIL ENGINEER  12/01/03
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1.0 INTRODUCTION

The Resource Conservation District of the Santa Monica Mountains (RCD-SMM), in association with California Department of Parks and Recreation (State Parks), the Los Angeles County Department of Beaches and Harbors (LACDBH), and California Coastal Conservancy (CCC) is proposing to replace the existing bridge over Topanga Creek as part of a project to restore the Topanga Lagoon to its former historic footprint. The proposed Lagoon Project includes dredging and reconstruction of the lagoon site, removal and reconstruction of the existing Pacific Coast Highway bridge to accommodate the new lagoon, restoration and establishment of the lagoon ecosystem, and improvements to the State Park and County land. This report focuses primarily on the Route 1 roadway and bridge reconstruction portion of the work approximately between stations 49+00 to 53+00, KP 65-67.

The Lagoon Restoration Project alternatives presented in this report include two bridge alternatives, as well as a no-build option. The restored lagoon is relatively identical for both bridge alternatives. Each of the two project alternatives range in cost from $27-35 million, and the roadway bridge replacement portion of this cost ranges from $18-24 million. The roadway bridge replacement portion of the project cost is proposed for 2006 STIP Funds. The alternatives have been developed in conjunction with a Project Development Team (PDT) consisting of public and private groups. Reviewers of this Report include the Resource Conservation District of the Santa Monica Mountains, California State Parks, the Los Angeles County Department of Beaches and Harbors, Santa Monica Bay Restoration Commission, and the California Coastal Conservancy. The PA/ED is proposed to begin in 2008, with construction starting in 2010.

2.0 BACKGROUND

2.1 Project History

The historic Topanga Lagoon at the mouth of Topanga Creek once covered almost 30 acres. In 1933, the State Division of Highways (Caltrans’ predecessor) reconstructed and re-aligned Pacific Coast Highway (PCH) over Topanga Lagoon. The project included replacement of a long multi-span timber trestle bridge with a short two-span concrete bridge, and filling the all but two acres of the lagoon.

Numerous sensitive and endangered species have been identified along the creek and lagoon. The lower creek also provides spawning and rearing habitat for endangered southern steelhead trout. At the lagoon, a recently established population of endangered tidewater gobies has been documented. Restoration and habitat enhancement for these species is a major goal of the Lagoon Restoration Project.

Now that all of the filled areas are in public ownership, the time is right to evaluate how the lagoon might be restored to some or all of its former function. The State Conservation and Water Resources Program (SCWRP) wetland inventory, the Santa
Monica Bay Restoration Project and the Topanga Creek Watershed Management Plan each identify lagoon restoration as a priority action.

In order to restore the watershed and lagoon, it is necessary to evaluate the current physical processes at work throughout the watershed that impact the creek mouth. Concurrent studies of hydraulics, hydrology, flooding, sedimentation, water quality, land use, wildfires, and species diversity have been in progress since 1996. The Topanga Creek Watershed & Lagoon Restoration Feasibility Study, (April 29, 2002), integrated the information provided by all studies into a comprehensive picture of the baseline processes at work. Existing conditions were used to calibrate a multi-dimensional computer hydraulic model (MIKE-11) and develop a series of Geographical Information System overlays.

Additionally, three alternative configurations for lagoon restoration were defined and analyzed. These alternatives include expansion of the lagoon to the west of the creek and south of PCH, expansion to the west of the creek both north and south of PCH, and expansion of the lagoon on all sides of the creek to almost the extent of the historic lagoon documented by the 1876 US Coast Survey map. Based on results of the modeling and input from the stakeholders, the expansion of the creek towards its historic configuration was selected to best achieve the stated restoration goals.

2.2 Community Interaction

The project has widespread support including the general public, Public Agencies, and the California Coastal Conservancy. The preliminary project development has included open public forums interactive design workshops (publicly referred to as charrettes). These workshops solicited input from all interested stakeholders including, but not limited to, the Topanga Creek Watershed Committee, the Technical and Landowners Advisory Committee, and the general public. The RCDSMM in conjunction with the California State Parks and the Topanga Creek Watershed Committee arranged these workshops.

The State of California owns the property north of the existing roadway. Reconfiguration and improvements to this property are planned as part of the Topanga State Park General Plan. Modifications, including removal and/or relocation of several buildings and businesses, will be included. This work will be done to develop the park area and to accommodate the widened lagoon, replacement bridge, and associated improvements. It is anticipated that this work will be completed prior to or in association with the construction of the new bridge. The State Parks property will also be encumbered by construction access, right-of-way and easement requirements.

Mitigation measures for the State Parks Property could include the following:

- Relocation of historic buildings: Both the Topanga Ranch Motel and Wylies Bait Shop have been identified as potentially eligible for historic status under the State Parks criteria
- Relocation of other buildings or businesses
- Construction of retaining walls to minimize loss of usable land
- Relocation of parking and/or driveway areas
- Temporary relocation of access

Topanga Beach is under the jurisdiction of the County of Los Angeles Department of Beaches and Harbors. The lagoon widening and associated modifications to PCH primarily impacts the parking availability at this public beach area.

In addition to the lagoon widening within the County beach property, the widened PCH approach roadway will impact the frontage road, the beach parking lots, beach access locations, and the emergency heli-pad at the existing west bridge approach. The upper beach lot was constructed with Land & Water Conservation Funds and Roberti-Z'Berg-Harris funds, and may require grant modifications.

The County beach property will also be encumbered by construction access, right-of-way and easement requirements. Mitigation measures for the County beach could include the following:
- Replacement of parking spaces lost through construction
- Construction of retaining walls to minimize land acquisition
- Relocation of parking areas
- Relocation of beach access gates
- Construction of a heli-pad area
- Protection of existing lifeguard facilities
- Relocation of frontage road

Conceptual mitigation measures and associated costs for the bridge and roadway construction are included in the proposed project. Final mitigation measures for the County Beach will be negotiated, and further refined during project approval/environmental document phase of the project.

Mitigation for the improvements on the State Parks property and for the restoration/widening of the lagoon are not included in the costs, and are assumed to be completed under separate projects.
3.0 NEED AND PURPOSE

3.1 Existing Conditions

Site Description

Pacific Coast Highway crosses Topanga Lagoon north of Topanga State Beach, approximately 1 mile east of the City of Malibu. This portion of PCH is a major commuter road, scenic tourist route and critical emergency route, used for primary emergency access and evacuation.

The beach area is a heavily visited site with up to an estimated 3/4 million visitors each year. Parking both within the County beachfront lot at the east-end of the bridge, and along PCH is extremely difficult on busy summer weekends. Pedestrian traffic can be heavy at times for access to the beach. Currently, there is a pedestrian underpass at the east PCH bridge abutment.

Several commercial buildings and rental residences occupy the area north of the bridge. The resident tenants are currently being relocated and many of the residential buildings will be removed by the State Parks as part of the Lower Topanga Canyon Acquisition Interim Management Plan (Reference 5).

The lagoon presently occupies approximately two acres, and is seasonally home to numerous sensitive and endangered species, including tidewater gobies and steelhead trout. A small riparian habitat exists along the steep slopes near the State Park area, north of the bridge.

Formerly, the lagoon covered nearly 30 acres, but was reduced to its current size when it was filled by the State Division of Highways (Caltrans) in the 1930s. This construction also included the removal of a multi-span timber trestle approximately 240-feet long, which bridged the former lagoon, and construction of a short two span concrete bridge on the north side of the lagoon with fill approaches. This construction resulted in a loss of habitat for wildlife, increased stream flow velocities and reduced flood-water conveyance.

Bridge and Roadway

The existing four-lane Pacific Coast Highway roadway and bridge were constructed in 1934. No seismic upgrades to the bridge structure have been done. A Bridge Inspection Report was completed Nov 20, 2001 and identified some concrete spalling, and general maintenance requirements, but noted the bridge was otherwise in good condition. Typical cross sections of the bridge and roadway are included in the Attachments Part 1 - Figures 2-9.

The roadway’s horizontal alignment is on a curve, running in a predominantly east/west direction. The posted speed is 72 km/h (45 mph).
3.2 Problem, Deficiencies, Justification

The problem is Topanga Lagoon, in its current 2-acre configuration, does not provide a wetlands favorable to aquatic and riparian life, which includes sensitive and endangered species such as steelhead trout and tidewater goby as described in the Topanga Creek Watershed & Lagoon Restoration Feasibility Study (Reference 4).

In addition, the filled areas and approach fills at the bridge restrict the flow of storm water from the creek into the ocean to the narrow opening under the bridge. Hydraulically, this causes high flow velocities, making it difficult for the steelhead trout to swim inland from the ocean, and also backs up the water causing flooding in the lower areas upstream as well as sedimentation in the lagoon and creek. The narrow pier openings also allow debris to get caught at the pier nosing, which further increases the hydraulic problems. (Reference 3)

The lagoon restoration is needed to mitigate the impacts caused by this fill, and removal of the fill is essential to the restoration of the wetland habitat, including re-establishment of estuarine habitat.

Accomplishment of this environmental mitigation project requires the reconstruction of the bridge and removal of the approach fills. The restoration of the lagoon will involve removal of the fill material under the bridge approaches and require construction of bridge structures in these areas.

The restored lagoon and reconstructed longer bridge will also reduce the potential for flooding upstream of the bridge, which is now under the jurisdiction of the California State Parks.

3.3 Traffic

Currently, the roadway operates at a level of service C or better. The proposed project, when completed is anticipated to have minimal impacts to operations, and the proposed and future roadway will continue to operate at a level C or better.

Existing And Future Traffic Conditions (Modified Excerpt From Reference 2)

Traffic Analysis Report

Year 2002 volume data was obtained directly from Caltrans for use in this PSR-PDS analysis. The raw traffic data is provided in Attachment A of the Traffic Study Report (Reference 2). Traffic growth projections were developed following consultation with the Southern California Association of Governments (SCAG), and are based on data from the travel demand forecasting model developed by SCAG for the current regional
transportation plan. The data from the model suggests that a relatively moderate level of growth (15% overall) is projected over the 28-year period from 1997 to 2025 on this segment of SR-1. If SCAG staff provides a different growth factor, the future traffic analysis will be revised. For the purpose of this analysis, this growth was assumed to occur linearly and to continue to 2030.

Table 1 presents AM and PM peak hour and average daily traffic (ADT) volumes for the existing year (2002) and 2030 (project completion, 2012 plus 20 years, rounded to the nearest 5-year interval).

**Table 1**  
Existing and Forecast Traffic Volumes on SR-1 west of SR-27

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Northbound</th>
<th>Southbound</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>AM Peak Hour</td>
<td>1,334</td>
<td>1,732</td>
</tr>
<tr>
<td></td>
<td>PM Peak Hour</td>
<td>2,021</td>
<td>1,923</td>
</tr>
<tr>
<td>Daily</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>2030</td>
<td>AM Peak Hour</td>
<td>1,534</td>
<td>1,992</td>
</tr>
<tr>
<td></td>
<td>PM Peak Hour</td>
<td>2,324</td>
<td>2,211</td>
</tr>
<tr>
<td>Daily</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

The existing and forecast future traffic conditions were evaluated using the HCM 2000 Multilane Highway operational analysis methodology, per the Guide for the Preparation of Traffic Impact Studies (Caltrans, June 2001). The calculated levels of service apply at the project location itself, a short multilane highway segment, rather than at the nearby signalized intersection of SR-1 and SR-27. The forecast future traffic conditions were analyzed for the existing ("No Build Alternative") roadway cross-section and for the "with project" alternatives (Alternative 1 and Alternative 2), which are identical for the purpose of this analysis. The results are summarized below in Table 2 and detailed analysis worksheets are provided in Reference 2, Attachment B. Under existing conditions this segment of SR-1 operates at LOS B in the northbound direction during the AM peak hour and at LOS C in the southbound direction during the AM peak hour and at LOS C in both directions during the PM peak hour. Under future 2030 conditions, with or without either of the proposed alternatives, the level of service is forecast to remain unchanged, although traffic density would increase slightly.
Table 2

Existing and Forecast Level of Service on SR-1

<table>
<thead>
<tr>
<th>Scenario</th>
<th>No Project Alternative</th>
<th>Alternatives 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Northbound</td>
<td>Southbound</td>
</tr>
<tr>
<td></td>
<td>Density</td>
<td>Level of</td>
</tr>
<tr>
<td></td>
<td>pc/mi/ln</td>
<td>Service</td>
</tr>
<tr>
<td>2002 AM</td>
<td>14.9</td>
<td>B</td>
</tr>
<tr>
<td>2002 PM</td>
<td>22.6</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>N/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2030 AM</td>
<td>17.1</td>
<td>B</td>
</tr>
<tr>
<td>2030 PM</td>
<td>25.9</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>17.0</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>24.4</td>
<td>C</td>
</tr>
</tbody>
</table>

Note: pc/mi/ln = passenger cars per mile per lane

Accident Data

Table 3 is a summary of the Caltrans Traffic Accident Surveillance and Analysis System (TASAS) for the segment of SR-1 where the project is proposed (postmile 40.6 to postmile 41.2) for the most recent three-year period. The full TASAS accident data is provided in the Topanga Lagoon Restoration Traffic Study Memorandum (Reference 2). The dates covered by the accident report are from October 1, 1999 through September 30, 2002.

Table 3:

TASAS Accident Rates

<table>
<thead>
<tr>
<th># of Accidents</th>
<th>Actual Rates *</th>
<th>Average Rates *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fatality</td>
<td>Fatality plus</td>
</tr>
<tr>
<td>63</td>
<td>0.065</td>
<td>0.72</td>
</tr>
</tbody>
</table>

* Accident rates per million vehicle miles.

There were no “Table C”s identified with a high accident concentration at this location for the last three years. On this segment of SR-1, 63 accidents occurred in the three-year
period from October 1, 1999 through September 30, 2002. Of these 63 accidents, the following information is known:

- 54 accidents involved multiple vehicles
- 20 accidents resulted in personal injury
- 2 accidents resulted in a fatality
- 4 accidents involved pedestrians
- 8 accidents were at least partially the result of improper turns
- 2 accidents occurred in wet conditions
- 18 accidents occurred in dark conditions

As shown in Table 3, the fatality and total accident experience on this segment of SR-1 is somewhat higher than the statewide average for similar facilities obtained from the TASAS reports. The fatality plus injury accident rates on this segment of SR-1, however, are below the statewide average. With the forecast increase in traffic volumes, these accident rates could worsen and the proposed project, by providing improved shoulders and turning movements along the affected segment of SR-1, could improve this situation. A potential safety improvement could result from the relocation and reconfiguration of the public parking areas, as visitors could enter by making right turns from either the northbound or the southbound direction.

4.0 ALTERNATIVES

4.1 Discussion of Alternatives

This report studies the following alternatives:

- Alternative 1 – Reconstruction of Pacific Coast Highway south of the existing alignment with a new bridge structure.
- Alternative 2 – Existing Alignment Reconstruction of Pacific Coast Highway in the approximate existing alignment with a new bridge structure.
- Alternative 3 – “No build”

Both Alternatives 1 and 2 propose similar bridge structures and roadways, and are based on an identical restored lagoon configuration. The structure is proposed as a 5-span 190-meter concrete bridge supported on concrete columns. The bridge width is proposed at 32.24 meters to accommodate a roadway section with four lanes and a median, all at 3.6 meters in width. A 2.4 meter shoulder will be provided on both sides of the traffic lanes, the shoulder will also serve bicycle riders. A 1.5-meter sidewalk will be provided on the south side only. The bridge section will also include a parking area, and a separate lane for slowing and parking on the south side of the structure.
Both Alternatives 1 and 2 provide for the hydraulic requirements of the new lagoon and reduce the flooding potential upstream.

It is anticipated the roadway will be required to accommodate two lanes in each direction during construction of the bridge for all alternatives. Traffic control and detour plans will be required to handle and maintain traffic through the construction zone. A Transportation Management Plan (TMP) will be prepared that develops a program to inform motorists, identify alternative routes, and mitigate the effects of construction impacts.

The range of cost for the bridge, approaches and associated work portion of Alternative 1 and 2 is between $18.0 - $24.0 million.

4.2 Alternative 1 - Southerly Alignment

Alternative 1 includes the reconstruction of Pacific Coast Highway southerly of the existing alignment with a new bridge structure. The structure will span over the restored lagoon and access roadway.

The new roadway section is proposed to accommodate four traffic lanes and a median, each 3.6-meters in width.

The Project will also include relocation of the County Beach parking and access roads, incorporation of emergency needs into the access areas and heliport area, provisions for pedestrian movement under the structure, and grading and retaining walls to accommodate the widened lagoon. This bridge and easterly approach will also provide for parking under the bridge and adjacent to the retaining walls. These parking areas will offset lost parking from the County parking lot southeast of the existing bridge.

Right-of-way will be required to be exchanged with Caltrans, primarily the Beaches and Harbors property south of the existing PCH alignment. Most of the utilities located within PCH, including the large water line, require relocation.

Traffic on PCH would be maintained by constructing the Bridge in two stages. Stage 1 will construct a southerly portion of the bridge while traffic is maintained on the existing bridge. In Stage 2, traffic would then be rerouted to the new south portion while the remainder of the structure is completed.

4.3 Alternative 2 – Existing Alignment

Alternative 2 includes the reconstruction of Pacific Coast Highway in the approximate existing alignment with a new bridge structure. The structure will span over the restored lagoon and access roadway.
The Project will also include some relocation of the County Beach parking and access roads, incorporation of emergency needs into the access areas and heliport area, provisions for pedestrian movement under the structure, and grading and retaining walls to accommodate the widened lagoon. This bridge and easterly approach will also include accommodations for parking.

Right-of-way will be minimal, with some rights required for the widened bridge and approaches. Most of the utilities located within PCH, including the large water line, require relocation.

Traffic on PCH will be maintained by constructing the Bridge in three stages. Stage 1 will construct a temporary bridge and roadway, southerly of the existing bridge while traffic is maintained on the existing bridge. In Stage 2, the traffic will be rerouted to the temporary roadway, and the northerly portion of the new bridge will be constructed. Stage 3 will reroute traffic onto the new north portion of the bridge, and then construct the remaining southerly portion of the bridge.

4.4 Alternative 3 – No Build Alternative

The No Build Alternative will keep the existing bridge and roadway in its present location. This will eliminate the potential for lagoon restoration and maintain a virtual damming effect to the creek floodwaters.

Expanding the lagoon, while maintaining the existing PCH bridge opening would severely limit floodwater conveyance to the sea. The flood flow velocities are anticipated to reach approximately 17 feet per second, and water surface elevations to reach approximately 11 feet above MSL without the effects of debris damming under the bridge considered. Damage could be caused to the bridge and adjacent structures under these flood conditions. Conditions would be worse with debris blockage/collection along the piers.

Flow velocities are currently too high to allow adult steelhead trout to migrate upstream during the peak of flood events. Flows are essentially bank to bank, occupying the entire floodplain. Migration opportunities for steelhead trout appear limited to a few days each year, on the falling edge of the storms, when flows through the bridge are suitable. Also, severe floods create a backwater effect from the small bridge cross-section constricting flows. A backwater effect is exaggerated pooling upstream of a channel constriction, a decrease in flow velocities and “backing up” of the flood. Sedimentation can occur in the backwater area as coarser sediments are dropped out of the flow. Sedimentation further constricts the channel cross-section causing additional hydraulic problems, and habitat damage. It may reduce the sediment supply to the beach and ocean, preventing re-nourishment of the delta and losses to the littoral zone.
4.5 Other Alternatives Considered

An additional alternative with a northerly alignment and relocation of buildings onto the beach was also considered, but deemed unfeasible because of the extensive amount of excavation, and associated environmental concerns, that would be needed at the knoll near Topanga Canton Boulevard. In addition, relocation of buildings onto the beach would require additional permitting and approvals from the Coastal Commission.

5.0 REGIONAL AND SYSTEM PLANNING

The proposed Topanga Lagoon Restoration project was not included in any of the adopted plans governing transportation systems and facilities within the study area.

While both the regional transportation plan Community Link 21, (Southern California Association of Governments, adopted April 2001) and the 2001 Long Range Transportation Plan for Los Angeles County (Los Angeles County Metropolitan Transportation Authority, adopted April 26, 2001) recognize the importance of managing the existing system, and neither long-range planning document identifies any physical improvements on this segment of SR-1 by 2025.

The Interregional Transportation System Management Plan (Caltrans, June 1998) identifies the entirety of SR-1 as one of 87 Interregional Road System routes statewide, although it is not designated as a focus route or as a high-emphasis route and no specific improvement strategies are identified.

6.0 ENVIRONMENTAL DETERMINATION AND ENVIRONMENTAL ISSUES

Caltrans will serve as the Lead Agency for environmental review of the Lagoon Restoration Project with California State Parks providing assistance. Under CEQA, there can not be multiple lead agencies for a project.

A Preliminary Environmental Assessment Report (PEAR) has been completed and is included in the attachments to this report. This Assessment is a preliminary level of environmental analysis used to identify environmental concerns to be addressed during project development.

An Initial Site Assessment (ISA) by GeoPentech (Reference 1) has been completed as well as a preliminary soils testing investigation. The ISA noted several areas of concern that may require additional investigation during project development. These include potential for soil and/or groundwater impacts from improperly stored materials, and materials at or near the site; however, this possibility was not confirmed. Samples tested identified the presence of arsenic and mercury above EPA preliminary remediation goals and further assessment is recommended. As these findings are non-site specific, the risk assessment is the same for both alternatives.
The Project is anticipated to require both an Environmental Impact Statement (EIS) in accordance with NEPA requirements, and an Environmental Impact Report (EIR) in accordance with CEQA requirements. It is anticipated that this document can be completed within 24 months.

Additional Environmental permits that may be required are listed in Section 7.2 -Permits.

7.0 RIGHT OF WAY

7.1 Right of Way Issues

General

Preliminary right-of-way impacts are similar for both alternatives. This includes land exchanges between public agencies, a small partial take from a private residence, and temporary construction easements from various landowners. Almost all of the impacted property is owned by State Parks or Los Angeles County Beaches and Harbors. The area of permanent acquisition from private entities is anticipated to be minimal to none. The only potential for private acquisition is in Alternative 2, where a sliver take may be needed at the northwest approach to accommodate a full width sidewalk; however, further refinement of design and alignment may eliminate this area.

The several buildings and businesses located within the State Parks property will require relocation and or demolition. The cost of these removals and/or relocations is not included in the project cost, and is assumed to be completed by California State Parks in advance of the project construction.

Right-of-way in fee or easement will also need to be acquired from and/or relinquished to both Los Angeles County Beaches and Harbors and the California State Parks. It is anticipated these agencies will provide right-of-way and right-of-way services as part of their contribution towards the Project.

It is anticipated that Caltrans will be the lead jurisdiction for right-of-way for the construction of the bridge, roadway and associated construction south of PCH, with the exception of the lagoon, and north for the construction of the access road and parking lots. It is also anticipated that State Parks will be the lead jurisdiction for the improvements within their property, and associated with the dredging/restoration of the lagoon.

Agreements will be developed during project development. Executed agreements are anticipated to be completed during preparation of the Project Report.
These right-of-way impacts were compiled into the Preliminary Right of Way PSR(PDS) Data Sheet presented in Attachment G.

Utilities

There are several utilities located in the project area including electrical (Edison), communication lines (Charter/Sprint), gas (So. Cal Gas), water (LA County Water Works and Malibu Water Company) and drainage (Caltrans). A large diameter water line is located parallel to PCH on the south side of the roadway. It is supported over the lagoon on a center pier, laterally tied to the existing roadway bridge. It is anticipated that this waterline will need to be relocated with the lagoon widening.

All utilities identified are impacted by the Project in either alternative. Most will require relocation as part of the project and will require new easements and/or license agreements.

It has been assumed public utilities located within the project limits will be relocated as part of the project. These are included in the project costs.

It has been assumed private utilities located within existing roadways are under franchise agreements, hence will be required to move at their own expense. These are not included in the project costs.

7.2 Permits

Permits may be required from:

- California Department of Fish and Game (Streambed Alteration Permit 1601)
- US Fish and Wildlife (Section 7 Consideration/ Bio Opinion)
- Coastal Commission Local Coastal Development Permit
- Regional Water Quality Control Board (401 Water Quality Certification)
- Army Corps of Engineers (Section 10 and 404 Permit)
- LA County Flood Control
- LA County Regional Planning
- Caltrans Encroachment Permit (for lagoon work)
- Encroachment permits from property owners
- National Marine Fisheries Service (Section 7 Consultation)
- State Lands Commission (for Lagoon Impacts)
- SWRCB -Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) during construction phase of the project.
7.3 Cooperative Agreements and Other Agreements

An Operation and Maintenance Agreement for the bridge structure and access roadways will need to be developed among Caltrans, California State Parks and the Los Angeles County Department of Beaches and Harbors.

Several cooperative agreements between other agencies and Caltrans are required. These include:

- Cooperative agreement between Caltrans, California State Parks, and the Los Angeles County Department of Beaches and Harbors for access rights to allow maintenance of the bridge, retaining walls and access roadways.

- Cooperative agreement between Caltrans, California State Parks, and Los Angeles County Department of Beaches and Harbors and possibly the California State Lands Commission for oversight of design, right-of-way and construction activities, project reviews and approval, permit services and highway operations management.

- Other agreements for public and private utilities will need to be developed for relocated facilities.

8.0 FUNDING/SCHEDULING

8.1 Funding

The roadway portion of the Lagoon Restoration Project including the bridge replacement, approaches and associated work is a 2006 STIP candidate. The remainder of the project, including State Parks land improvements and lagoon restoration and establishment is anticipated to be funded jointly by Local, State, Federal sources. The Lagoon Restoration Project is eligible for matching funds from the following Grant sources: U.S. National Oceanic and Atmospheric Administration (NOAA) Community Based Habitat Restoration Commission, EPA Water Quality Grants, the Southern California Wetlands Recovery Project, the Santa Monica Bay Restoration Commission, Land and Water Conservation Fund, SWRCB Watershed and Non-Point Source pollution control Program (Coastal Non-point source pollution control, 319 Non-point source implementation Program, Clean Beaches Grant), CDFG fisheries Restoration Grant, Migratory Bird Conservancy Grant, USFWF Coastal Wetlands Conservation Grant, EPA Wetland Program Development Grant, and Environmental Enhancement and Mitigation program (funding by Caltrans) and US Army Corp. The RCDSMM and State Parks are currently identifying additional funding sources.

The estimated cost of construction and right-of-way for the Bridge Replacement and associated improvements, as well as the cost of the Topanga State Park Improvements (associated with the Lagoon Restoration) and lagoon construction are shown on Table 1 in current cost without escalation. These cost are approximately the same for both Alternatives 1 & 2.
The Bridge Replacement Project costs and associated support costs are escalated to the appropriate fiscal year and shown in Table 2.

**Table 1 - Construction Cost Estimate**

<table>
<thead>
<tr>
<th></th>
<th>Range for Total Cost</th>
<th>Funding by Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total For</td>
<td>STIP/Trans Funds For Bridge, Approaches, and Associated Work. For Lagoon Restoration, Establishments and Land Improvements</td>
</tr>
<tr>
<td>Lagoon Restoration Project</td>
<td>$30,000,000 - $36,000,000</td>
<td>$20,000,000 - $24,000,000</td>
</tr>
<tr>
<td>Alternative 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2 - Capital Outlay Support Estimate for PA/ED**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total For Lagoon Restoration Project</th>
<th>STIP/Trans Funds For Bridge, Approaches, and Associated Work.</th>
<th>Funding by Others For Lagoon Restoration, Establishments and Land Improvements (*Approximated for State Parks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/07</td>
<td>$430,000</td>
<td>$230,000</td>
<td>$200,000*</td>
</tr>
<tr>
<td>2007/08</td>
<td>$403,000</td>
<td>$253,000</td>
<td>$150,000*</td>
</tr>
<tr>
<td>2008/09</td>
<td>$179,000</td>
<td>$129,000</td>
<td>$50,000*</td>
</tr>
<tr>
<td><strong>Total Support Cost</strong></td>
<td><strong>$1,012,000</strong></td>
<td><strong>$612,000</strong></td>
<td><strong>$400,000</strong></td>
</tr>
</tbody>
</table>

The level of detail available to develop these capital cost estimates is only accurate to within the above ranges and are useful for long range planning purposes only. The capital costs should not be used to program or commit capital funds. The Project Report will serve as the appropriate document from which the remaining support and capital components of the project will be programmed.
8.2 Scheduling

Construction duration is anticipated between 16 and 24 months, depending on the alternative.

A tentative project development schedule is provided in Table 3:

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare Draft Project Report/Draft ED</td>
<td>2006/07</td>
</tr>
<tr>
<td>Circulate Draft Project Report/ Draft ED</td>
<td>2008/09</td>
</tr>
<tr>
<td>Public Hearing</td>
<td>2008/09</td>
</tr>
<tr>
<td>PA/ED</td>
<td>2008/09</td>
</tr>
<tr>
<td>PS&amp;E</td>
<td>2010/11</td>
</tr>
<tr>
<td>ROW Certification</td>
<td>2010/11</td>
</tr>
<tr>
<td>Project Ready to List</td>
<td>2010/11</td>
</tr>
<tr>
<td>Begin Construction</td>
<td>2010/11</td>
</tr>
<tr>
<td>Construction Completion</td>
<td>2012/13</td>
</tr>
</tbody>
</table>

*Only the “PA/ED” milestone is to be used for programming commitments. All other milestones are used to indicate relative time frames for planning purposes.*

9.0 PROGRAMMING RECOMMENDATIONS

This project is recommended for funding of the project development support component for PA/ED in the STIP as discussed in the Funding/Scheduling section and to take the alternatives identified in the Alternatives section for further study in the PA/ED phase.

This assumes that the project will be incorporated into the General Plan Amendment for Topanga State Park.

Alternatives may be added or revised during the PA/ED phase as more information becomes available.
10.0 PROJECT PERSONNEL

**Caltrans**
Albert Andraos 213-897-4921
Jean Quan, ROW 213-897-1922

**California Coastal Commission**
Jack Ainsworth 805-565-1800

**California Coastal Conservancy**
Christopher Kroll 510-286-4169

**California State Parks**
Ron Schafer 818-880-0350
Clay Phillips 619-220-5303
Suzanne Goode 818-880-0364
Barney Matsumoto 619-220-5404

**Los Angeles County Department of Beaches and Harbors**
Larry Charness 310-827-4189
Wayne Schumker 310-505-9951
Vivian Paquin-Sanner 310-305-9500
Kerry Gottlieb 310-305-9528
Joe Chesler 310-305-9533

**Los Angeles County Department of Public Works**
Iraj Nasseri 626-458-6124

**Resource Conservation District of the Santa Monica Mountains**
Rosi Dagit 310-455-7528

**Consultant Team**
Chris Webb Moffatt and Nichol Engineers 562-426-9551
Elizabeth Greer Moffatt and Nichol Engineers 562-426-9551
Linda Brody Chambers Group 949-261-5414
John A. Barneich GeoPentech 714-796-9100
Netai Basu Kaku Associates, Inc. 310-458-9916
Robbin Sotir Robbin B. Sotir & Associates 770-424-0719
Clark Stevens Roto Architects Inc. 323-226-1105
11.0 LIST OF ATTACHMENTS

Attachments Part 1 - Figures

- Figure 1 – Location Map
- Figure 2 – Alternative 1 - Plan and Profile
- Figure 3 – Alternative 1 – Roadway Sections and Details
- Figure 4 - Alternative 1 – Staging
- Figure 5 - Alternative 1 – General Plan
- Figure 6 – Alternative 2 - Plan and Profile
- Figure 7 – Alternative 2 – Roadway Sections and Details
- Figure 8 - Alternative 2 – Staging
- Figure 9 - Alternative 2 – General Plan

Attachments Part 2 - Data Reports

A. Preliminary Cost Estimates
B. Division of Engineering Services Scoping Checklist
C. Design Scoping Checklist
D. Checklist for Preliminary Bridge Cost Estimate
E. Traffic Forecasting, Traffic Analysis and Traffic Operations Scoping Checklist
F. Transportation Management Plan Data Sheet (Preliminary TMP Elements and Costs)
G. Right of Way PSR(PDS) Data Sheet
H. PEAR
I. Mitigation and Compliance Cost estimate
J. NPDES Information Sheet
K. Storm Water Data Report
L. Foundation Report (and Design Considerations) Topanga Lagoon Restoration Report; GeoPentech
N. PSR Evaluation Sheet
REFERENCE REPORTS

1) Topanga Lagoon Initial Site Assessment (ISA) Report, Draft; GeoPentech; Nov. 2003

2) Topanga Lagoon Restoration Traffic Study Memorandum; Kaku & Associates; Oct. 2003

3) Topanga Lagoon Creek Preliminary Hydraulic Analysis; Moffatt and Nichol Engineers; March 21, 2003

4) Topanga Creek Watershed & Lagoon Restoration Feasibility Study; Moffatt and Nichol Engineers, et al.; April 29, 2002
ATTACHMENTS

PART 1

FIGURES

- Figure 1 – Location Map
- Figure 2 – Alternative 1 - Plan and Profile
- Figure 3 – Alternative 1 – Roadway Sections and Details
- Figure 4 - Alternative 1 – Staging
- Figure 5 - Alternative 1 – General Plan
- Figure 6 – Alternative 2 - Plan and Profile
- Figure 7 – Alternative 2 – Roadway Sections and Details
- Figure 8 - Alternative 2 – Staging
- Figure 9 - Alternative 2 – General Plan
FIGURE 1

LOCATION MAP

PROJECT LOCATION

Existing Bridge
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENTS

PART 2

DATA REPORTS
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

A

Preliminary Cost Estimates
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

Project Study Report – Project Development Support
Cost Estimate – Alternative 1

District-County-Route 07-LA-1
KP(PM) 65.3-66.3 (40.6-41.2)
EA 23930K
Program Code HE12

PROJECT DESCRIPTION: Topanga Lagoon Bridge Reconstruction

Limits Topanga Canyon Boulevard to Malibu City Limits

Proposed Improvement (Scope) Reconstruct the PCH bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored Lagoon.

Alternate 1 – Southerly Alignment

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS $ 7,900,000
TOTAL STRUCTURE ITEMS $ 13,800,000

SUBTOTAL CONSTRUCTION COSTS $ 21,700,000

TOTAL RIGHT OF WAY ITEMS (Escalated to $2010) $ 1,800,000

TOTAL PROJECT CAPITAL OUTLAY COSTS $ 23,500,000

LAGOON RESTORATION COSTS BY OTHERS

LAGOON CONSTRUCTION $ 6,200,000
STATE PARK MODIFICATIONS AND COUNTY BEACH PARKING $ 5,200,000

TOTAL LAGOON RESTORATION $ 34,900,000*

*Does not include Engineering, Construction Management, Administration, Escalation (except ROW), or Utility Relocations by Owners
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

I. ROADWAY ITEMS

<table>
<thead>
<tr>
<th>Total Cost of Lane M's</th>
<th>Average Cost per Lane</th>
<th>Number of KMs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$4400/m</td>
<td>1.8</td>
</tr>
</tbody>
</table>

TOTAL ROADWAY ITEMS $7,900,000

See Cost Back-up

II. STRUCTURES ITEMS

<table>
<thead>
<tr>
<th>Bridge Name</th>
<th>Structure (1)</th>
<th>Structure (2)</th>
<th>Structure (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bridge</td>
<td>Walls</td>
<td>Walls</td>
</tr>
<tr>
<td>Total Cost for Structure</td>
<td>$12,400,000</td>
<td>$900,000</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

TOTAL STRUCTURES ITEMS $13,800,000

(Sum of Total Cost for Structures)

See Back-up

III. ENVIRONMENTAL MITIGATION

INCLUDED IN ROADWAY

IV. RIGHT OF WAY ITEMS

TOTAL RIGHT OF WAY ITEMS $1,500,000

TOTAL RIGHT OF WAY ITEMS $1,840,000
(Escalated Value)

Anticipated Date of Right of Way Certification August 2010
(Date to which values are escalated)

See Back-up
ALTERNATIVE 1 COST

TOPANGA LAGOON RESTORATION

District-County-Route 7-LA-1
KP 65.3-66.3 (PM 40.6-41.2)
EA 23930K
Program Code HE12

PROJECT DESCRIPTION: Topanga Lagoon Bridge Reconstruction

Limits: Topanga Canyon Boulevard to Malibu City Limits

Proposed Improvement (Scope): Construct Replacement Lagoon I Bridge and Approaches

SUMMARY OF PROJECT COST ESTIMATE

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL ROADWAY ITEMS</td>
<td>$7,900,000</td>
</tr>
<tr>
<td>TOTAL STRUCTURE ITEMS</td>
<td>$13,800,000</td>
</tr>
<tr>
<td>SUBTOTAL CONSTRUCTION COSTS</td>
<td>$21,700,000</td>
</tr>
<tr>
<td>TOTAL RIGHT OF WAY ITEMS</td>
<td>$1,800,000</td>
</tr>
<tr>
<td>TOTAL PROJECT CAPITAL OUTLAY COSTS</td>
<td>$23,500,000</td>
</tr>
<tr>
<td>LAGOON CONSTRUCTION</td>
<td>$6,200,000</td>
</tr>
<tr>
<td>STATE PARK MODIFICATIONS AND COUNTY BEACH PARKING</td>
<td>$5,200,000</td>
</tr>
<tr>
<td>TOTAL PROJECT</td>
<td>$34,900,000</td>
</tr>
</tbody>
</table>

* Escalated Costs
# ALTERNATIVE 1 COST

## I. ROADWAY ITEMS (PCH)

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Earthwork</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Excavation</td>
<td>105,280</td>
<td>M3</td>
<td>$15.00</td>
<td>$1,579,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearing &amp; Grubbing</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop Water Supply</td>
<td>1</td>
<td>LS</td>
<td>$20,000.00</td>
<td>$20,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove A.C.</td>
<td>11,250</td>
<td>M2</td>
<td>$15.00</td>
<td>$168,750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove Curb &amp; Gutter</td>
<td>400</td>
<td>LM</td>
<td>$13.00</td>
<td>$5,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pervious Backfill Material</td>
<td>85</td>
<td>M3</td>
<td>$65.00</td>
<td>$5,525</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helipad Fill (from exc)</td>
<td>7,000</td>
<td>M3</td>
<td>$10.00</td>
<td>$70,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal Earthwork Section $ 1,948,675

**Section 2  Pavement Structural Section**

| | Asphalt Concrete | 4,274 | TNE | $90.00 | $384,660 |
| | Aggregate Base | 1,830 | M3 | $35.00 | $57,050 |
| | Aggregate Subbase | 3,260 | M3 | $25.00 | $81,500 |
| | Detour A.C. | 880 | TNE | $52.00 | $45,760 |
| | Detour Base | 360 | TNE | $30.00 | $10,800 |
| | Misc Items | 1 | LS | $50,000.00 | $50,000 |

Subtotal Pavement Structural Section $ 629,770

**Section 3  Drainage**

| | Storm Drains | 1 | LS | $25,000.00 | $25,000 |
| | Project Drainage | 400 | LM | $20.00 | $8,000 |
| | Grated Inlet | 6 | EA | $3,500.00 | $21,000 |
| | Misc Items | 1 | LS | $50,000.00 | $50,000 |

Subtotal Drainage Section $ 104,000
## I. ROADWAY ITEMS (PCH) (cont.)

<table>
<thead>
<tr>
<th>Section 4 Specialty Items</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers (Type 732)</td>
<td>450</td>
<td>LM</td>
<td>$150.00</td>
<td>$67,500</td>
<td></td>
</tr>
<tr>
<td>Barriers (Type 26)</td>
<td>450</td>
<td>LM</td>
<td>$100.00</td>
<td>$45,000</td>
<td></td>
</tr>
<tr>
<td>Replacement Planting</td>
<td>1</td>
<td>LS</td>
<td>$30,000.00</td>
<td>$30,000</td>
<td></td>
</tr>
<tr>
<td>Relocate Irrigation Facilities</td>
<td>1</td>
<td>LS</td>
<td>$10,000.00</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Slope Protection</td>
<td>330</td>
<td>M3</td>
<td>$400.00</td>
<td>$132,000</td>
<td></td>
</tr>
<tr>
<td>Storm Water Control</td>
<td>1</td>
<td>LS</td>
<td>$400,000.00</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td>Environmental Mitigation Obligatory</td>
<td>1</td>
<td>LS</td>
<td>$438,000.00</td>
<td>$438,000</td>
<td></td>
</tr>
<tr>
<td>Environmental Statutory Required</td>
<td>1</td>
<td>LS</td>
<td>$183,000.00</td>
<td>$183,000</td>
<td></td>
</tr>
<tr>
<td>Hazardous Waste Mitigation Work</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
<td>Allowance</td>
</tr>
<tr>
<td>RE Office</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
<td></td>
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<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
<td></td>
</tr>
</tbody>
</table>

Subtotal Specialty Items Section $ 1,605,500

<table>
<thead>
<tr>
<th>Section 5 Traffic Items</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>4</td>
<td>EA</td>
<td>$30,000.00</td>
<td>$120,000</td>
<td></td>
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<tr>
<td>Traffic Delineation Items</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Roadside Signs</td>
<td>1</td>
<td>LS</td>
<td>$150,000.00</td>
<td>$150,000</td>
<td></td>
</tr>
<tr>
<td>Construction Area Sign</td>
<td>1</td>
<td>LS</td>
<td>$20,000.00</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>Traffic Control</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Traffic Management</td>
<td>1</td>
<td>LS</td>
<td>$90,000.00</td>
<td>$90,000</td>
<td></td>
</tr>
<tr>
<td>K-Rail (Permanent and Temporary)</td>
<td>500</td>
<td>LM</td>
<td>$75.00</td>
<td>$37,500</td>
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</tr>
<tr>
<td>Detour Striping and Removal</td>
<td>1,776</td>
<td>LM</td>
<td>$5.50</td>
<td>$9,768</td>
<td></td>
</tr>
<tr>
<td>Permanent Striping</td>
<td>2,400</td>
<td>LM</td>
<td>$2.00</td>
<td>$4,800</td>
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</tr>
<tr>
<td>Remove Detour Striping</td>
<td>2,400</td>
<td>LM</td>
<td>$1.50</td>
<td>$3,600</td>
<td></td>
</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
<td></td>
</tr>
</tbody>
</table>

Subtotal Traffic Items Section $ 635,668

TOTAL SECTION 1 THRU 5 $ 4,923,613
# ALTERNATIVE 1 COST

## I. ROADWAY ITEMS (PCH) (cont.)

<table>
<thead>
<tr>
<th>Section</th>
<th>Minor Items</th>
<th>Roadway Mobilization</th>
<th>Roadway Additions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item Cost</strong></td>
<td><strong>Section Cost</strong></td>
<td><strong>Item Cost</strong></td>
<td><strong>Section Cost</strong></td>
</tr>
<tr>
<td>$4,923,613 X 10.0%</td>
<td>$492,361</td>
<td>$5,415,974 X 10.0%</td>
<td>$541,597</td>
</tr>
<tr>
<td>(Subtotal Sections 1 thru 5)</td>
<td>TOTAL MINOR ITEMS</td>
<td>(Subtotal Sections 1 thru 6)</td>
<td>TOTAL ROADWAY MOBILIZATION</td>
</tr>
<tr>
<td></td>
<td>$492,361</td>
<td></td>
<td>$541,597</td>
</tr>
<tr>
<td>$5,415,974 X 10.0%</td>
<td>$541,597</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Subtotal Sections 1 thru 6)</td>
<td>TOTAL ROADWAY ADDITIONS</td>
<td>(Subtotal Sections 1 thru 6)</td>
<td>TOTAL ROADWAY ITEMS</td>
</tr>
<tr>
<td></td>
<td>$1,895,591</td>
<td></td>
<td>$7,850,000</td>
</tr>
<tr>
<td>$5,415,974 X 25.0%</td>
<td>$1,353,994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Subtotal Sections 1 thru 6)</td>
<td>TOTAL ROADWAY ADDITIONS</td>
<td>(Subtotal Sections 1 thru 8)</td>
<td>TOTAL ROADWAY ITEMS</td>
</tr>
<tr>
<td></td>
<td>$1,895,591</td>
<td></td>
<td>$7,900,000</td>
</tr>
</tbody>
</table>

Project Length = 444
Number of Lanes = 4
Lane M = 1776
say 1800
$/Lane = $4,361
Use $/Lane = $4,400
II. STRUCTURE ITEMS (PCH)

<table>
<thead>
<tr>
<th></th>
<th>Structure (1)</th>
<th>Structure (2)</th>
<th>Structure (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge Name: Topanga Lagoon</td>
<td>Bridge</td>
<td>Retaining Wall</td>
<td>Retaining Wall</td>
</tr>
<tr>
<td>Structure Type</td>
<td>Bulb T</td>
<td>PCH</td>
<td>Heli</td>
</tr>
<tr>
<td>Width (out to out) - (32.24m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span Lengths - (190m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Area - (m²)</td>
<td>6,126</td>
<td>1,400</td>
<td>770</td>
</tr>
<tr>
<td>Footing Type (pile/spread)</td>
<td>Pile</td>
<td>Pile</td>
<td>Pile</td>
</tr>
<tr>
<td>Cost per m² (including 10% mobilization and cost contingency)</td>
<td>$ 2,000</td>
<td>$ 670</td>
<td>$ 670</td>
</tr>
<tr>
<td>Total Cost for Structure</td>
<td>$ 12,250,000</td>
<td>$ 940,000</td>
<td>$ 520,000</td>
</tr>
<tr>
<td>SUBTOTAL STRUCTURES ITEMS</td>
<td>$ 13,710,000</td>
<td></td>
<td></td>
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<tr>
<td>(Sum of Total Cost for Structures)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Demolition</td>
<td>EA</td>
<td>$ 100,000.00</td>
<td>$ 100,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$ -</td>
<td></td>
</tr>
<tr>
<td>TOTAL STRUCTURES ITEMS</td>
<td></td>
<td>$ 13,810,000</td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>12,400,000</td>
<td>900,000</td>
<td>500,000</td>
</tr>
<tr>
<td>SUBTOTAL STRUCTURES ITEMS</td>
<td>$ 13,800,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS: $/M² = 2,024
### III. RIGHT-OF-WAY ITEMS

<table>
<thead>
<tr>
<th>Description</th>
<th>Escalated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition, including excess lands, damages to</td>
<td>+20*100</td>
</tr>
<tr>
<td>remainder(s) and Goodwill</td>
<td>$ 500,000</td>
</tr>
<tr>
<td>Utility Relocation (State share)</td>
<td>Allowance</td>
</tr>
<tr>
<td>$ 1,000,000</td>
<td></td>
</tr>
<tr>
<td>Relocation Assistance</td>
<td>$ -</td>
</tr>
<tr>
<td>Clearance/Demolition</td>
<td>$ -</td>
</tr>
<tr>
<td>Title and Escrow Fees</td>
<td>$ -</td>
</tr>
<tr>
<td><strong>TOTAL RIGHT-OF-WAY ITEMS</strong></td>
<td><strong>$ 1,500,000</strong></td>
</tr>
<tr>
<td><em>(Escalated Value Rounded)</em></td>
<td><strong>$ 1,800,000</strong></td>
</tr>
</tbody>
</table>

Anticipated Date of Right of Way Certification
(Date to which Values are Escalated) 2010

### F. Construction Contract Work

Right-of-Way Branch Cost Estimate for Work *

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. **Do not** include in Right of Way Items.

### COMMENTS:

Right-of-way acquisition includes only roadway easement on Equestrian Property (approx 20 sqm)
There is no costs included for permanent or temporary acquisition of County Property.
There is no costs included for easements or temporary acquisition of State Park Property.
Cost for Relocation, Removals, etc on State Lands is under separate contract
Cost for Mitigation of County Parking is under separate contract

Estimate Prepared By

(Print Name)

NOTE: If appropriate, attach additional pages and backup.
# ALTERNATIVE 1 COST

**IV. Cost for Projects by Others**

<table>
<thead>
<tr>
<th>State Park</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Relocation</td>
<td>1</td>
<td>LS</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
<td>Allowance</td>
</tr>
<tr>
<td>ROW</td>
<td>1</td>
<td>LS</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
<td>Allowance</td>
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<tr>
<td>Demolition</td>
<td>1</td>
<td>LS</td>
<td>$400,000</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td>Site Modifications</td>
<td>1</td>
<td>LS</td>
<td>$100,000</td>
<td>$100,000</td>
<td>Allowance</td>
</tr>
<tr>
<td>Excavation</td>
<td>15,400</td>
<td>M3</td>
<td>$15.00</td>
<td>$231,000</td>
<td></td>
</tr>
<tr>
<td>Access road</td>
<td>1,440</td>
<td>M2</td>
<td>$150</td>
<td>$216,000</td>
<td></td>
</tr>
<tr>
<td>Drive Reconstruction</td>
<td>1</td>
<td>LS</td>
<td>$100,000</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>Beach Parking Lot</td>
<td>1,800</td>
<td>M2</td>
<td>$150</td>
<td>$270,000</td>
<td></td>
</tr>
<tr>
<td>Retaining Walls (</td>
<td>910</td>
<td>M2</td>
<td>$500</td>
<td>$455,000</td>
<td></td>
</tr>
<tr>
<td>Environmental Mitigation</td>
<td>1</td>
<td>LS</td>
<td>$500,000</td>
<td>$500,000</td>
<td></td>
</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Cont @ 20%</td>
<td></td>
<td></td>
<td></td>
<td>$864,400</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal Earthwork Section</strong></td>
<td></td>
<td></td>
<td></td>
<td>$5,200,000</td>
<td></td>
</tr>
</tbody>
</table>

| Lagoon Construction             |          |      |            |           |               |
| Dredge                          | 1        | LS   | 1650000    | $1,650,000|               |
| Shoring (to breach)             | 1        | LS   | 1000000    | $1,000,000|               |
| Retaining Walls (               | 1        | LS   | 500000     | $500,000  |               |
| Environmental Mitigation        | 1        | LS   | 500000     | $500,000  |               |
| Habitat Restoration             | 1        | LS   | 1000000    | $1,000,000|               |
| Misc Items                      | 1        | LS   | 500000     | $500,000  |               |
| Cont @ 20%                      |          |      |            | $1,030,000 |               |
| **Subtotal Drainage Section**   |          |      |            | $6,200,000 |               |
Project Study Report – Project Development Support
Cost Estimate – Alternative 2

District-County-Route _______ 07-LA-1
KP(PM) _______ 65.3-66.3 (40.6-41.2)
EA _______ 23930K
Program Code _______ HE12

PROJECT DESCRIPTION: Topanga Lagoon Bridge Reconstruction

Limits _______ Topanga Canyon Boulevard to Malibu City Limits

Proposed Improvement (Scope) _______ Reconstruct the PCH bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored Lagoon.

Alternate 2 – Existing Alignment

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS $ 7,800,000
TOTAL STRUCTURE ITEMS $ 14,700,000
SUBTOTAL CONSTRUCTION COSTS $ 22,000,000

TOTAL RIGHT OF WAY ITEMS (Escalated to $2010) $ 1,200,000
TOTAL PROJECT CAPITAL OUTLAY COSTS $ 23,700,000

LAGOON RESTORATION COSTS BY OTHERS

LAGOON CONSTRUCTION $ 6,300,000
STATE PARK MODIFICATIONS AND COUNTY BEACH PARKING $ 4,600,000
TOTAL LAGOON RESTORATION $ 34,600,000*

*Does not include Engineering, Construction Management, Administration, Escalation (except ROW), or Utility Relocations by Owners
TOPANGA LAGOON BRIDGE REPLACEMENT  
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

I. ROADWAY ITEMS

<table>
<thead>
<tr>
<th></th>
<th>Average Cost per Lane</th>
<th>Number of KMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost of Lane Ms</td>
<td>$5600/m</td>
<td>1.4</td>
</tr>
</tbody>
</table>

TOTAL ROADWAY ITEMS $7,800,000

See Cost Back-up

II. STRUCTURES ITEMS

<table>
<thead>
<tr>
<th>Bridge Name</th>
<th>Structure (1)</th>
<th>Structure (2)</th>
<th>Structure (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost for Structure</td>
<td>$13,900,000</td>
<td>$300,000</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

TOTAL STRUCTURES ITEMS $14,700,000

(Sum of Total Cost for Structures)

See Back-up

III. ENVIRONMENTAL MITIGATION

INCLUDED IN ROADWAY

IV. RIGHT OF WAY ITEMS

TOTAL RIGHT OF WAY ITEMS $1,000,000

TOTAL RIGHT OF WAY ITEMS $1,230,000  
(Escalated Value)

Anticipated Date of Right of Way Certification  
(Date to which values are escalated)  
August 2010

See Back-up

P:\509\gmt\PSR\March_FinalPSR_RTE1_Part A.doc
### TOPANGA LAGOON RESTORATION

**District-County-Route** 7-LA-1  
**KP 65.3-66.3 (PM 40.6-41.2)**  
**EA 23930K**  
**Program Code HE12**

**PROJECT DESCRIPTION:** Topanga Lagoon Bridge Reconstruction  
**Limits:** Topanga Canyon Boulevard to Malibu City Limits

**Proposed Improvement (Scope):** Construct Replacement Lagoon I Bridge and Approaches

### SUMMARY OF PROJECT COST ESTIMATE

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL ROADWAY ITEMS</td>
<td>$7,800,000</td>
</tr>
<tr>
<td>TOTAL STRUCTURE ITEMS</td>
<td>$14,700,000</td>
</tr>
<tr>
<td>SUBTOTAL CONSTRUCTION COSTS</td>
<td>$22,500,000</td>
</tr>
<tr>
<td>TOTAL RIGHT OF WAY ITEMS</td>
<td>$1,200,000 *</td>
</tr>
<tr>
<td>TOTAL PROJECT CAPITAL OUTLAY COSTS</td>
<td>$23,700,000</td>
</tr>
<tr>
<td>LAGOON CONSTRUCTION</td>
<td>$6,300,000</td>
</tr>
<tr>
<td>STATE PARK MODIFICATIONS AND COUNTY BEACH PARKING</td>
<td>$4,600,000</td>
</tr>
<tr>
<td>TOTAL PROJECT</td>
<td>$34,600,000</td>
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</table>

* Escalated Costs
I. ROADWAY ITEMS (PCH)

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Earthwork</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Excavation</td>
<td>105,280</td>
<td>M3</td>
<td>$15.00</td>
<td>$1,579,200</td>
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<td></td>
</tr>
<tr>
<td>Clearing &amp; Grubbing</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop Water Supply</td>
<td>1</td>
<td>LS</td>
<td>$20,000.00</td>
<td>$20,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove A.C.</td>
<td>11,250</td>
<td>M2</td>
<td>$15.00</td>
<td>$168,750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove Curb &amp; Gutter</td>
<td>400</td>
<td>LM</td>
<td>$13.00</td>
<td>$5,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pervious Backfill Material</td>
<td>85</td>
<td>M3</td>
<td>$65.00</td>
<td>$5,525</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helipad Fill (from exc)</td>
<td>7,000</td>
<td>M3</td>
<td>$10.00</td>
<td>$70,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
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<td></td>
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</table>

Subtotal Earthwork Section $1,948,675

Section 2  Pavement Structural Section*

<table>
<thead>
<tr>
<th>Section 2</th>
<th>Pavement Structural Section</th>
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</thead>
<tbody>
<tr>
<td>Asphalt Concrete</td>
<td>3,465</td>
<td>TNE</td>
</tr>
<tr>
<td>Aggregate Base</td>
<td>1,322</td>
<td>M3</td>
</tr>
<tr>
<td>Aggregate Subbase</td>
<td>3,260</td>
<td>M3</td>
</tr>
<tr>
<td>Detour A.C.</td>
<td>880</td>
<td>TNE</td>
</tr>
<tr>
<td>Detour Base</td>
<td>280</td>
<td>TNE</td>
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<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
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Subtotal Pavement Structural Section $543,803

Section 3  Drainage

<table>
<thead>
<tr>
<th>Section 3</th>
<th>Drainage</th>
<th></th>
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<tbody>
<tr>
<td>Storm Drains</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>Project Drainage</td>
<td>400</td>
<td>LM</td>
</tr>
<tr>
<td>Grated Inlet</td>
<td>6</td>
<td>EA</td>
</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
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</table>

Subtotal Drainage Section $104,000
## I. ROADWAY ITEMS (PCH) (cont.)

<table>
<thead>
<tr>
<th>Section 4 Specialty Items</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers (Type 732)</td>
<td>400</td>
<td>LM</td>
<td>$150.00</td>
<td>$60,000</td>
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<tr>
<td>Barriers (Type 26)</td>
<td>400</td>
<td>LM</td>
<td>$100.00</td>
<td>$40,000</td>
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<tr>
<td>Replacement Planting</td>
<td>1</td>
<td>LS</td>
<td>$30,000.00</td>
<td>$30,000</td>
<td></td>
</tr>
<tr>
<td>Relocate Irrigation Facilities</td>
<td>1</td>
<td>LS</td>
<td>$10,000.00</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Slope Protection</td>
<td>330</td>
<td>M3</td>
<td>$400.00</td>
<td>$132,000</td>
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</tr>
<tr>
<td>Storm Water Control</td>
<td>1</td>
<td>LS</td>
<td>$400,000.00</td>
<td>$400,000</td>
<td></td>
</tr>
<tr>
<td>Environmental Mitigation Obligatory</td>
<td>1</td>
<td>LS</td>
<td>$438,000.00</td>
<td>$438,000</td>
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<tr>
<td>Environmental Statutory Required</td>
<td>1</td>
<td>LS</td>
<td>$183,000.00</td>
<td>$183,000</td>
<td></td>
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<tr>
<td>Hazardous Waste Mitigation Work</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
<td>Allowance</td>
</tr>
<tr>
<td>RE Office</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
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</tr>
<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
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</tbody>
</table>

Subtotal Specialty Items Section $1,593,000

<table>
<thead>
<tr>
<th>Section 5 Traffic Items</th>
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<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>4</td>
<td>EA</td>
<td>$30,000.00</td>
<td>$120,000</td>
<td></td>
</tr>
<tr>
<td>Traffic Delineation Items</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Roadside Signs</td>
<td>1</td>
<td>LS</td>
<td>$150,000.00</td>
<td>$150,000</td>
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</tr>
<tr>
<td>Construction Area Sign</td>
<td>1</td>
<td>LS</td>
<td>$20,000.00</td>
<td>$20,000</td>
<td></td>
</tr>
<tr>
<td>Traffic Control</td>
<td>1</td>
<td>LS</td>
<td>$50,000.00</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Traffic Management</td>
<td>1</td>
<td>LS</td>
<td>$90,000.00</td>
<td>$90,000</td>
<td></td>
</tr>
<tr>
<td>K-Rail (Permanent and Temporary)</td>
<td>500</td>
<td>LM</td>
<td>$75.00</td>
<td>$37,500</td>
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</tr>
<tr>
<td>Detour Striping and Removal</td>
<td>1,776</td>
<td>LM</td>
<td>$5.50</td>
<td>$9,768</td>
<td></td>
</tr>
<tr>
<td>Permanent Striping</td>
<td>1,946</td>
<td>LM</td>
<td>$2.00</td>
<td>$3,892</td>
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</tr>
<tr>
<td>Remove Detour Striping</td>
<td>2,400</td>
<td>LM</td>
<td>$1.50</td>
<td>$3,600</td>
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<tr>
<td>Misc Items</td>
<td>1</td>
<td>LS</td>
<td>$100,000.00</td>
<td>$100,000</td>
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</table>

Subtotal Traffic Items Section $634,760

TOTAL SECTION 1 THRU 5 $4,824,238
## ALTERNATIVE 2 COST

### I. ROADWAY ITEMS (PCH) (cont.)

<table>
<thead>
<tr>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,824,238 X 10.0% = $482,424</td>
<td>TOTAL MINOR ITEMS $482,424</td>
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</tbody>
</table>

(Subtotal Sections 1 thru 5)

<table>
<thead>
<tr>
<th>Item Cost</th>
<th>Section Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,306,662 X 10.0% = $530,666</td>
<td>TOTAL ROADWAY MOBILIZATION $530,666</td>
</tr>
</tbody>
</table>

(Subtotal Sections 1 thru 6)

### Section 8 Roadway Additions

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost per Item</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans Resident Engineer Office</td>
<td>$5,000 /mon</td>
<td>@ 24</td>
<td>$120,000</td>
</tr>
<tr>
<td>Supplemental Work</td>
<td>$5,306,662 X 10.0% = $530,666</td>
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<td></td>
</tr>
<tr>
<td>(Subtotal Sections 1 thru 6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingencies</td>
<td>$5,306,662 X 25.0% = $1,326,665</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Subtotal Sections 1 thru 6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL ROADWAY ADDITIONS</td>
<td>$1,977,332</td>
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</tr>
<tr>
<td>TOTAL ROADWAY ITEMS</td>
<td>$7,810,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Subtotal Sections 1 thru 8)

Project Length = 360
Number of Lanes = 4
Lane M = 1440
say 1400
$/Lane = $5,579
Use $/Lane = $5,600
TOTAL ROADWAY ITEMS $7,800,000
## II. STRUCTURE ITEMS (PCH)

<table>
<thead>
<tr>
<th></th>
<th>Structure 1</th>
<th>Structure 2</th>
<th>Structure 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge Name: Topanga Lagoon</td>
<td>Bridge</td>
<td>Retaining Wall</td>
<td>Retaining Wall</td>
</tr>
<tr>
<td>Structure Type</td>
<td>Bulb T</td>
<td>PCH</td>
<td>Heli</td>
</tr>
<tr>
<td>Width (out to out) - (32.24m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Span Lengths - (190m)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Area - (m²)</td>
<td>6,126</td>
<td>490</td>
<td>770</td>
</tr>
<tr>
<td>Footing Type (pile/spread)</td>
<td>Pile</td>
<td>Pile</td>
<td>Pile</td>
</tr>
<tr>
<td>Cost per m² (including 10% mobilization and cost contingency)</td>
<td>$2,100</td>
<td>$670</td>
<td>$670</td>
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<tr>
<td>Total Cost for Structure</td>
<td>$12,860,000</td>
<td>$330,000</td>
<td>$520,000</td>
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<tr>
<td>SUBTOTAL STRUCTURES ITEMS</td>
<td>$13,710,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Bridge Demolition

|                        | EA          | $100,000.00 | $200,000.00 |

### Temporary Bridge

|                        | EA          | $800,000.00 | $800,000.00 |

**TOTAL STRUCTURES ITEMS**: $14,710,000

**SUBTOTAL STRUCTURES ITEMS**: $14,700,000

**Comments:**

$/M² = 2,269$
ALTERNATIVE 2 COST

III. RIGHT-OF-WAY ITEMS

| A.  | Acquisition, including excess lands, damages to remainder(s) and Goodwill | 0 | $ | - |
| B.  | Utility Relocation (State share) | Allowance | $ | 1,000,000 |
| C.  | Relocation Assistance | $ | - |
| D.  | Clearance/Demolition | $ | - |
| E.  | Title and Escrow Fees | $ | - |

TOTAL RIGHT-OF-WAY ITEMS $ 1,000,000
(Escalated Value Rounded) $ 1,200,000

Anticipated Date of Right of Way Certification
(Date to which Values are Escalated) 2010

F. Construction Contract Work

Right-of-Way Branch Cost Estimate for Work *

* This dollar amount is to be included in the Roadway and/or Structures Items of Work, as appropriate. Do not include in Right of Way Items.

COMMENTS:

There is no costs included for permanent or temporary acquisition of County Property.
There is no costs included for easements or temporary acquisition of State Park Property.
Cost for Relocation, Removals, etc on State Lands is under separate contract
Cost for Mitigation of County Parking is under separate contract

Estimate Prepared By
(Print Name)

NOTE: If appropriate, attach additional pages and backup.
## Alternative 2 Cost

### IV. Cost for Projects by Others

<table>
<thead>
<tr>
<th>State Park</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Item Cost</th>
<th>Section Cost</th>
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<tbody>
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<td>LS</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
<td>Allowance</td>
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<tr>
<td>ROW</td>
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<td>$500,000</td>
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<tr>
<td>Demolition</td>
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<td>$</td>
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<td>Retaining Walls</td>
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<td>Cont @ 20%</td>
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<td>Subtotal Earthwork Section</td>
<td></td>
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<td></td>
<td>$4,600,000</td>
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</tr>
</tbody>
</table>

| Lagoon Construction                  |          |      |            |            |              |
| Dredge                               | 1        | LS   | 1650000    | $1,650,000  |              |
| Shoring (to breach)                  | 1        | LS   | 1000000    | $1,000,000  |              |
| Retaining Walls (                     | 1        | LS   | 600000     | $600,000    |              |
| Environmental Mitigation             | 1        | LS   | 500000     | $500,000    |              |
| Habitat Restoration                  | 1        | LS   | 1000000    | $1,000,000  |              |
| Misc Items                           | 1        | LS   | 500000     | $500,000    |              |
| Cont @ 20%                            |          |      |            | $1,050,000  |              |
| Subtotal Drainage Section            |          |      |            | $6,300,000  |              |
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

B

Division of Engineering Services Scoping Checklist
Division of Engineering Services
Scoping Checklist

Project Information

District __7__ County __LA__ Route __1__ Kilometer Post (Post Mile) 65.8 (40.9) __EA 23930 K__
Description Reconstruct PCUI roadway and bridge and remove lagoon fill areas. Work may also include relocation or removal of parking, existing structures and access roads. Incidental work such as traffic staging, retaining walls, detour roads, utility relocation, detention basins and exotic plant removal will also be included.

Caltrans Functional Manager __Albert Andrias__ Phone # 213-897-4921
Consultant Project Manager __Elizabeth Greer__ Phone # 562-426-9551
Caltrans DES Project Coordination Engineer __John Scott__ Phone # 916-227-8843

Proposed Work (Select number(s) that best match scope of work that applies to overall project):

(1) Construct New Expressway/Freeway on new align.
(2) Construct Interchange
(3) Modify Interchange
(4) Construct Passing Lane
(5) Curve Correction
(6) Widened Highway
(7) Left-turn Pocket
(8) Modify Slope
(9) Stabilize Subgrade
(10) Stabilize Roadway
(11) Median Barrier Retrofit
(12) Bridge Widening
(13) Bridge Replacement (new alignment?) __Yes__
(14) Landscape/Scapes
(15) Rockfall Project
(16) Building Project
(17) Other Roadway Realignment
(18) Construct Soundwall/Retaining Wall
(19) Bridge Seismic Retrofit

Alternative # 1 & 2

Project Cost (Range) Tentative Schedule
Roadway $6,000k - $8,000k PR or PA/ED* 2008
Structure** $13,000k - $15,000k DPS & E 2010
Total $19,000k - $23,000k RTL

Construction Complete 2013
*Note only PA/ED milestone is to be used for programming commitments. All other milestones are used to indicate relative time frame for planning purposes.
**Structure Cost to be provided by DES Technical Liaison Engineer.

Proposed Scope of DES Design Work

Roadway and Bridge design is needed. A significant amount of studies have been completed in association with the Lagoon Restoration. Geotechnical investigations and final hydraulic analysis will be required, but should not impact the development of the design.
Design by:  □ Office of Structure Design  □ Structure Maintenance Design
□ Office of Structure Contract Management (Consultant Design)
□ Office of Special Funded Projects (Consultant Design Oversight:  □ State or  □ Local Agency)

Bridge Design:
- New Bridge: How many? _______
  List name and Br. Numbers (if existing) ____________________________
- Bridge Replacement: How many? 1
  List name and Br. Numbers (if existing) 53-0143
- Bridge Widening: How many?
  List name and Br. Numbers (if existing)
- Br. Rail upgrade: How many?
  List name and Br. Numbers (if existing)

Other DES Functional units required for Structure Work (excluding Bridge Design)
□ Structure Hydraulics (include if bridge over water)
□ Geotechnical Services (Structure Foundations)

Soundwall and/or Retaining Wall Design (non-district designed):
□ Soundwall(s): How many? _______ Estimated Max. Ht _______ Estimated Total Length (m) _______
□ Retaining walls(s): How many? 3 Estimated Max. Ht 7m Estimated Total Length (m) 300
□ MSE walls(s): How many? _______ Estimated Max. Ht: _______ Total Length (m) _______

Technical Specialist Design
Anticipated insertable plan sheet(s) check below:
□ Culvert(s): How many? _______  □ Barrier(s): How many? _______
□ Sign and Overhead Structure(s)

Other Design: Explain

Transportation Architecture Design Services (Check all that are anticipated):
□ Design New Building(s): Explain
□ Remodel Existing Buildings(s): Explain
□ Bridge Aesthetics Evaluation: Explain Scenic Highway – Route 1
□ Build scale model  □ Other Aesthetics work: Explain

Electrical, Mechanical, Water & Wastewater Design Services
□ Pumping Plants: Explain
□ Movable bridge, drawbridge: Explain
□ Lighting, control systems for facilities: Explain: Replacement Lighting
□ Sanitary Systems: Explain

DES Geotechnical Services
Has Geotechnical Design Liaison or other geotechnical staff been contacted:
□ Yes  □ No  If yes, who? __________________________
□ Type of Terrain:  □ Flat  □ Rolling  □ Mountainous
□ Cuts:  Est. Max Height (m): 11  Est. Volume (m³): _______  □ New  □ Widen
□ Fills:  Est. Max Height (m): 7  Est. Volume (m³): _______  □ New  □ Widen
□ Retaining Walls, How many? 3  Est. Max. Height 7m Est. length 300m Cut  Fill
□ Overhead Sign Foundations, How many? 0
□ Changeable Message Sign Foundations, How many?
□ Special Studies (slope stability, rockfall, erosion, seepage, ground water, settlement, liquefaction, slipout repair, rock slope, etc.)
EXPLAIN:

☐ Existing Maintenance Problems, Explain:

**DES Materials Engineering & Testing Services**

☐ Deflection Studies: No. Of Locations Number of lane/miles to be tested

☐ Type of pavement (Ave. grades, Ave. superelevation)

☐ Consultation and inspection

☐ Changeable Message Signs, Closed Circuit TV

☐ Concrete Bridge ☐ Steel Bridge

☐ Corrosion Tests (Soil___, Concrete___)

☐ Special Products, Explain:

**DES Railroad Agreements**

Railroad Involvement: ☐ No ☐ Yes, Explain

**DES Engineering Technology**

☐ Aerial Photography ☐ Raster Imaging Est. Total Length_______ Est. Ave. Width_______

☐ Mapping: Est. Total Length (km)________ Est. Average Width (m)_______ Scale:________

☐ Photogrammetric DTM Modeling (non-district): Est. Total Length (km)________ Est. Total Ave. Width (m)________

*Note: A photogrammetry Service Request-PSR (PDS) must be completed and submitted to DES Photogrammetry by the District Photogrammetry Coordinator.*

**Additional Studies, Investigations or Research from DES**

Identify additional studies that may be required including resources and lead-times. If identified as a risk in the "Proposed Scope of DES Design Work", clarify in detail here.

None identified

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<th>Division of Engineering Services</th>
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<td>Resources for WBS Activity 175</td>
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<tr>
<td>Resources for WBS Activity 180</td>
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</table>

TOTAL 0.59

COST ESTIMATE
Preliminary Evaluation prepared by:

Consultant Design Manager  
Elizabeth Greer (M&N)  
Date 11/03

Preliminary Evaluation reviewed by:

Caltrans DES Project Coordination Engineer  
John Scott  
Date 12/29/03

Concurrence:

Caltrans Project Manager  
Syed Huq  
Date 01/07/2004
Design Scoping Checklist
PDS Design Scoping Checklist

Project Information

District 7  County LA  Route 1  Kilometer Post (Post Mile) KP 65.3 (PM 40.6) EA 23930 K

Description Reconstruction of Pacific Coast Highway (PCH) bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored lagoon

Caltrans Project Manager Syed Huq Phone # 213-897-6714
Caltrans Functional Manager Albert Andraos Phone # 213-897-4921
Consultant Project Manager Elizabeth Greer Phone # 562-426-9551
Caltrans Project Development Coordinator Jim DeLuca Phone # 

Project Screening

(Attach the project location map to this checklist to show location of all design improvements anticipated)

1. Project Description as Noted in Regional Transportation Plan: ______________

   NA

2. Project Setting __________ Beach Front

   Rural or Urban __________ Urban

   Current land uses __________ Recreation, Retail Business

   Adjacent land uses __________ State Parks, County Beach, and Residential

   (industrial, light industry, commercial, agricultural, residential, etc.)

   Existing landscaping/planting __________ Yes, Native and Nonnative

3. Route Adoption: Date 1919 __________ Type of Facility (Freeway, Controlled Access Highway, or Conventional Highway): Conventional Highway

   Freeway Agreement: Date __________ NA
Description of the Transportation Problem

Topanga Lagoon restoration is needed to mitigate the impacts caused by a 1933 fill, and essential to the restoration of wetland habitat, including re-establishment of estuarine habitat.

Accomplishing this environmental mitigation project requires the reconstruction of the bridge and removal of the approach fills. The restoration of the Lagoon will involve removal of the fill material under the bridge approaches and require construction of bridge structures in these areas.

The restored lagoon and reconstructed longer bridge will also reduce the potential for flooding upstream of the bridge, which is now under the jurisdiction of the California State Parks.

Proposed Scope of Work

Replace the existing bridge with a longer structure

Design Criteria

Type of facility to be considered? (more than one may apply)

Freeway  Expressway  Conventional Highway  Urban Street

Other (specify) _______________________

Design Speed for highway facilities within the project limit? 72 km/hr (45 mph r=1000' s=0)

Design Period: Construction Year is?  2010  Design Year is?  2030

Design Capacity: Level of Service to be maintained over the design period is?

Mainline  X  Ramp  Local Street  Weaving Sections

Design Vehicle Selection?

STAA  California  Bus  X

Proposed Roadbed and Structure Widths

Forecasted Average Daily Traffic Volumes  47,000
Percent Truck Volume 2%

<table>
<thead>
<tr>
<th>Roadbed Width</th>
<th>Structure Width</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State highway</strong></td>
<td><strong>Existing / Proposed / Standard</strong></td>
</tr>
<tr>
<td>Lane Widths</td>
<td>3.35/3.60/3.60</td>
</tr>
<tr>
<td>Left Shoulder</td>
<td>0/0/0</td>
</tr>
<tr>
<td>Right Shoulder</td>
<td>Varies/2.40/2.40</td>
</tr>
<tr>
<td>Median Width</td>
<td>0-3.6/0-3.6/0-3.6</td>
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<tr>
<td>Bicycle Lane</td>
<td>On Shoulder/OnShoulder</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Local Street</strong></th>
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<tr>
<td>Lane Widths</td>
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<td>Left Shoulder</td>
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<td>Right Shoulder</td>
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</tr>
<tr>
<td>Median Width</td>
<td></td>
</tr>
<tr>
<td>Bicycle Lane</td>
<td></td>
</tr>
</tbody>
</table>

| Median Barrier | None |

**Roadway Design Scoping**

**Mainline Operations**

- Mainline Highway Widening
  - Existing pavement to be rehabilitated with Asphalt Concrete / Rubberized AC / PCC.
  - Widen existing NA lane facility to ______ lanes.
  - R/W acquisition for Parking lanes.
  - Local street structures to span NA lanes of highway (for future requirements).
- Upgrade existing facility to:
  - Expressway Standards
  - Freeway Standards
  - Controlled Access Highway
  - Traversable Highway
  - Improve Vertical Clearance
  - Adequate Falsework Clearance

**Ramp / Street Intersection Improvements**

- New Signals
- Modify Signals
- Right Turn Lanes
- Widening For Localized Through Lanes
- Merging Lanes
- Deceleration / Acceleration Lanes
- Left Turn Lanes
- > 300 VPH Left Turn (Requires Double Left Turn)
- Interchange Spacing
- Ramps Intersect Local Street < 4 % Grade
- Intersection Spacing
- Exit Ramps > 1,500 VPH Designed As Two Lane Exit
- Single Lane Ramps Exceeding 300 M Widened To Two Lanes
- Other
Operational Improvements

Truck Climbing Lane
☐ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.
☐ Other_________________________________

Auxiliary Lanes
☐ When 600 M Between Successive On-Ramps.
☐ Two Lane Exit Ramps Have 400 M Auxiliary Lane.
☐ Weaving < 500 M between Off-Ramp and On-Ramp.
☐ Other_________________________________

Right of Way Access Control

☐ Existing access control extends at least 15 m beyond end of curb return, radius or taper.
☐ New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.
☐ Other_________________________________

Highway Planting
☒ Replacement
☐ Median
☐ Mitigation

Safety
☐ Off-Freeway Access
☐ Maintenance Vehicle Pull-Out

Roadside Management
☒ Slope paving
☐ Gore paving
☐ Roadside paving

Stormwater
☒ Erosion control
☒ Drainage
☒ Slope design

Structures

☒ New Bridge
☐ Bridge Rehab
☒ Retaining Wall
☐ Other ________________
☐ On STRAIN list for ____________________
Additional Studies

Identify additional studies that may be required including resources and schedules.

Preliminary Evaluation prepared by:

Consultant Design Manager ___________________________ Date 11/03
Elizabeth Greer (M&N)

Preliminary Evaluation concurred by:

Caltrans Functional Manager ___________________________ Date 12/1/03
Albert Andraos

Design Concept approved by:

Caltrans Project Development Coordinator ___________________________ Date 12/16/03
Jim DeLuca

Conceptual approval in no way implies that any non-standard features currently identified or identified in the future will be approved. Non-standard features will need to be identified, fully analyzed and justified prior to approval (via a design exception fact sheet) of the selected alternative.

Reviewed by:

Caltrans Project Manager ___________________________ Date 12/22/03
Syed Huq
ATTACHMENT

D

Checklist for Preliminary Bridge Cost Estimate
Date: February 18, 2003
District Project Engineer  Elizabeth Greer (M&N)  Telephone  562-426-9551
EA  23930 K  District-Co-Rte-KM  7-LA-1-(65.3-66.3)
Bridge Name/Number  Pacific Coast Highway 53-0143
Bridge Length  190 M  Longest Span  38 M  New Bridge Deck Area  6145 M^2
Width  32.34 M  Height  10 M  Proposed Structure Type  PC/PS Girder

1. New Bridge ☑ Widening ☐ 1 Side ☐ 2 Sides ☐ Median ☐
2. Support: Single Column ☐ Multi-Column ☑
3. Bridge Location: Overcrossing ☐ Undercrossing ☐ Over water ☑ Over railroad ☐
4. Stage Construction: ☑ How many stages? 2
5. Traffic Control ☑ Falsework ☐ New Alignment (Alt I) ☐ Existing Alignment (Alt II) ☐
6. Remove Existing Bridge ☑ Bridge Deck Area to be removed (M^2) 444
7. Seasonal Construction Windows (month) ______
8. Construction Duration Shifts 1 Day _____ Night _____
    Calendar Days 400
9. Known Working Day Constraints _____
10. Foundation Type: Spread Footing ☐ Pile Footing ☑ Pile Type PC/PS
11. Site Location: Urban ☐ Rural ☑
12. Site Assessibility GOOD
13. Winter Weather Norm
    Rainy ☐ Snowy ☐ Freeze-Thaw ☐
14. Retaining Wall ☑ Type-Location of wall ______
    Avg. Height 3.0 M Length 180 M Area $40 M^2$
15. Sound Wall on Bridge ☐
16. Pumping Plant ☐
17. Environmental:
    Hazardous Waste ☐ Endangered Species ☐ Bird Species ☑
    Sensitive Habitats ☑ Wetlands ☑
18. Permits Required:
    Army Corp of Engineer Storm Drain Modification
    Fish & Game (Stream be modification, Construction window) Lagoon Modification
19. Provide District-EA and Bridge Number of similar projects in the vicinity

Comments: Two alternatives proposed. Cost Estimates provided for bridge, staging, lagoon inlet widening, and connecting ramp.

Technological Liaison Engineer  Telephone

Estimate By: C. Chen  Date of Estimate: 2/18/03
Cost Range / m^3 $1,400 to $1,540
10% Mobilization $140 to $154
25% Contingency $385 to $423

Preliminary Cost Range = $1,925 to $2,117
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

E

Traffic Forecasting, Traffic Analysis and Traffic Operations Scoping Checklist
PDS Traffic Forecasting, Analysis and Operations Scoping Checklist

Project Information

District 7  County Los Angeles Route 1  Kilometer Post 65.8 (PM 40.9)  EA 23930 K

Description Project: Reconstruction of Pacific Coast Highway (PCH) bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored lagoon

Functional Manager Albert Andraos  Phone # (213) 897-4921

Consultant Project Manager Elizabeth Greer  Phone # (562) 426-9551

Traffic Forecasting Functional Manager Chao Wei  Phone # (213) 897-1814

Traffic Operations Functional Manager Sameer Haddadeen  Phone # (213) 897-5102

Traffic Forecasting, Traffic Analysis Scoping

Traffic Study Included

Traffic Operations Scoping

Traffic Study Included

Project Screening

1. Project Features: New R/W? Yes – Alternative 1 Only  Excavation or fill? Yes – both

2. Project Setting

SR-1 between Topanga Canyon Boulevard and Malibu City limits.

Rural or Urban  The project site lies in a semi-rural setting.

Current land uses
Residential, commercial, State park

Adjacent land uses
State park, State beach, State highways

(industrial, light industry, commercial, agricultural, residential, etc.)
**Existing Traffic Operational Conditions and Warrants Supporting the Need for the Improvement**

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<thead>
<tr>
<th>Condition</th>
<th>Warrant Status</th>
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<tbody>
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<td>Mainline highway</td>
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</tr>
<tr>
<td>Ramp intersection</td>
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</tr>
<tr>
<td>Merge / diverge</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Street intersection</td>
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</tr>
<tr>
<td>Weaving / merging (spacing)</td>
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</tr>
</tbody>
</table>

**Other**

The project is intended to improve flood conveyance under Pacific Coast Highway (PCH) bridge at Topanga Lagoon and accommodate an enlarged and restored lagoon. The project will improve existing highway facilities, State Park features, and provide essential habitat for endangered fisheries found in the lagoon.

**Traffic Study and Analysis Anticipated**

**Traffic Modeling Assumptions**

- **X Use Local Model**
  - Update New Model
  - New Model

- **X Existing Traffic Counts**
  - New Traffic Counts
  - Historical Growth

- **o General Plan (GP) Buildout**
  - Pro-Rate GP Growth

- **X Existing Year (2002)**
  - **X Design Year (2030)**
  - **X Interim Year (2008)**

**Other**
Traffic Analysis

- Mainline LOS
  - Merge/Diverge LOS
    - Ramp Int. LOS
- Adjacent IC LOS
  - Ramp Metering (open)
  - Ramp Metering (later)
- Left/Right Turn Storage
  - X Accident / Safety Analysis
  - Intersection Queues
- Construction Staging
  - X Project Staging

Other


Traffic Operations Scoping

Traffic Operational Improvements

Attach the project location map to this checklist to show location of all traffic operations improvements anticipated.

- Auxiliary Lanes
  - Intersection Improvements
    - Truck Climbing Lane
- New Signals
  - Modify Signals
    - Merging Improvements
- Weaving Improvements
  - Deceleration / Acceleration Lanes

Other

Reconstruction of PCH bridge to improve flood conveyance and improve highway facilities and State Park.
Traffic Management Systems

Attach the project location map to this checklist to show location of all traffic management systems identified.

- Ramp Meters
  - HOV Ramp Bypass
    - Mainline HOV Lanes
- Detector Loops
  - Communication Networks (fiber optic, telephone, etc.)
- Closed Circuit Television
  - Changeable Message Sign
    - Highway Advisory Radio

Other
Not applicable

________________________________________

Discuss strategies (technical analysis, public outreach, etc.) to secure local agency and public support to implement HOV lanes and ramp metering:

NA

Preliminary Traffic Forecasting Evaluation provided by:

Traffic Forecasting __________________ Date 11/03
Elizabeth Greer, Moffatt & Nichol

Preliminary Traffic Operations Evaluation provided by:

Traffic Forecasting Functional Manager __________________ Date ______
Chao Wei

Traffic Investigation Functional Manager __________________ Date ______
Samcer Haddadecen
ATTACHMENT

F

Transportation Management Plan Data Sheet
(Preliminary TMP Elements and Costs)
TRANSPORTATION MANAGEMENT PLAN DATA SHEET  
(Preliminary TMP Elements and Costs)  

<table>
<thead>
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<th>Co/Rte/KP</th>
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<th>EA</th>
<th>23930 K</th>
<th>Alternative No.</th>
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<tr>
<td>Project Description</td>
<td>Reconstruction of Pacific Coast Highway (PCH) bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored lagoon.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Public Information
   - a. Brochures and Mailers $5000
   - b. Press Release
   - c. Paid Advertising $ 
   - d. Public Information Center/Kiosk. Public Information Center/Kiosk $4000
   - e. Public Meeting/Speakers Bureau
   - f. Telephone Hotline
   - g. Internet
   - h. Others $ 

2) Motorists Information Strategies
   - a. Changeable Message Signs (Fixed) $ 
   - b. Changeable Message Signs (Portable) $124,000
   - c. Ground Mounted Signs $60,000
   - d. Highway Advisory Radio $288,000
   - e. Caltrans Highway Information Network (CHIN)
   - f. Others $ 

3) Incident Management
   - a. Construction Zone Enhanced Enforcement Program (COZEFP) $52,000
   - b. Freeway Service Patrol $ 
   - c. Traffic Management Team
   - d. Helicopter Surveillance $ 
   - e. Traffic Surveillance Stations (Loop Detector and CCTV) $ 
   - f. Others $ 

P:\5096\mgnt\PSR\March_Final\PSR_RTE1_Part F_TMP_DATASHEET.doc  03/29/04
4) Construction Strategies
   a. Lane Closure Chart
   b. Reversible Lanes
   c. Total Facility Closure
   d. Contra Flow
   e. Truck Traffic Restrictions
   f. Reduced Speed Zone
   g. Connector and Ramp Closures
   h. Incentive and Disincentive
   i. Moveable Barrier
   j. Others

   $5000

5) Demand Management
   a. HOV Lanes/Ramps (New or Convert)
   b. Park and Ride Lots
   c. Rideshare Incentives
   d. Variable Work Hours
   e. Telecommute
   f. Ramp Metering (Temporary Installation)
   g. Ramp Metering (Modify Existing)
   h. Others

   $10,000

6) Alternative Route Strategies
   a. Add Capacity to Freeway Connector
   b. Street Improvement (widening, traffic signal... etc)
   c. Traffic Control Officers
   d. Parking Restrictions
   e. Others

   $0

7) Other Strategies
   a. Application of New Technology
   b. Others

   $3000

TOTAL ESTIMATED COST OF TMP ELEMENTS = $247,000
Project Notes:

2B - $2600/MONTH * 24 MONTHS * 2 UNITS = $124,800

3A - 1 UNIT 2 OFFICERS * 8 HOURS * $60/HR * (22 DAYS - SAY 30 DAYS) Say $30,000

PREPARED BY

DATE 11/03

APPROVAL RECOMMENDED BY

DATE 1/2/04

APPROVAL BY

DATE 1-6-04

Elizabeth Greer, Moffatt and Nichol
Samir Haddad, TMP Coordinator
Steve Leung, Office Chief - DTM
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

G

Right of Way PSR(PDS) Data Sheet
FOR PROGRAMMING CAPITAL SUPPORT ONLY
NOT FOR CAPITAL PROGRAMMING PURPOSES
See accompanying Limiting Conditions and Assumptions

To: ____________________
Date August 7, 2003
Dist 07

Attn: ____________________
EA 23930 K

Project Description
Topanga Lagoon Restoration

Subject: Right-of-Way PSR PDS
Alternate No. 1

1. **Right-of-Way PSR(PDS) Cost Estimate:** Develop a range of values for the alternative under consideration. Enter “High” estimate into PMCS COST RW1-5 Screens.

   **Range of Values**

<table>
<thead>
<tr>
<th>A. Total Acquisition Cost</th>
<th>LOW</th>
<th>HIGH $500,000</th>
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</thead>
<tbody>
<tr>
<td>Acquisition, including Excess Lands, Damages, and Goodwill. Project Permit Fees.</td>
<td>$ 0</td>
<td>($600,000)</td>
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</table>

<table>
<thead>
<tr>
<th>B. Utility Relocation [State’s share including Positive Location (potholing)].</th>
<th>LOW $200,000</th>
<th>HIGH $1,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($200,000)</td>
<td>($1,200,000)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Relocation Assistance</th>
<th>LOW $0*</th>
<th>HIGH $0*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D. Clearance/Demolition</th>
<th>LOW $0*</th>
<th>HIGH $0*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E. Title and Escrow</th>
<th>LOW $0*</th>
<th>HIGH $0*</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>F. Total Estimated Cost (Escalated cost $2010)</th>
<th>LOW $200,000</th>
<th>HIGH $1,500,000</th>
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<tbody>
<tr>
<td></td>
<td>($200,000)</td>
<td>($1,800,000)</td>
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</table>

<table>
<thead>
<tr>
<th>G. Construction Contract Work (These are construction costs that are to be included in the project PS&amp;E.)</th>
<th>LOW $0*</th>
<th>HIGH $0*</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$0</td>
<td>$0</td>
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</tbody>
</table>

* Clearance and Demolition is anticipated to be completed by State Parks

2. Current Date of Right-of-Way Certification 2010/11

3. **Workload Estimate:** To be entered into PMCS EVNT RW Screen.

<table>
<thead>
<tr>
<th>Type</th>
<th>Minor</th>
<th>Dual/Appr</th>
<th>Utilities</th>
<th>RR Involvements</th>
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</thead>
<tbody>
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<td>A</td>
<td></td>
<td></td>
<td>- 2</td>
<td>C&amp;M Agrmnt</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td>- 3</td>
<td>Svc Contract</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td>- 4</td>
<td>Design</td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td>U5 – 7</td>
<td>Const</td>
</tr>
<tr>
<td>E</td>
<td>XXXX</td>
<td></td>
<td>- 8</td>
<td>Lic/RE/Clauses</td>
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<tr>
<td>F</td>
<td>XXXX</td>
<td></td>
<td>- 9</td>
<td>Misc R/W Work</td>
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</table>

   Total

<table>
<thead>
<tr>
<th>Areas: R/W Minor - none No. Excess Parcels</th>
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<th>Entered AGRE Screen</th>
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<tbody>
<tr>
<td></td>
<td>_____________________</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>by</td>
<td>by</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entered AGRE Screen (Railroad data only)</th>
<th>By</th>
</tr>
</thead>
</table>
4. Resources required by right-of-Way to develop the Project Initiation Document (PID). By Consultant

5. Are there any major items of construction contract work known at this time? Yes __X__ No__ (Construction of bridge structure.)

6. Provide a general description of the right-of-way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.). No right-of-way required. Minor Right-of-way impacts to be offset with land exchange. State Parks and the County of Los Angeles are owners. Use will be public.

7. Will there be an effect on assessed valuation? Yes___ Not Significant__X__ No_____ (If yes, explain.)

8. Are utility facilities or rights of way affected? Yes__X__ No ____ (Relocation req’d)

9. Are Railroad facilities or rights-of-way affected? Yes___ No X (If yes, explain)

10. Were any previously unidentified sites with hazardous waste and/or material found?
    Yes___ None Evident__X_ (If yes, attach memorandum per R/W Manual Chapter 4, Section 4.01.10.00.)

11. Are RAP displacements required? Yes____ No____X (If yes, provide the following information.)
    No. of single family____ No. of business/nonprofit_____
    Is it anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing? Will____ Will Not ____ (If Not, explain)

12. Are there material borrow and/or disposal sites required? Yes X No

13. Are there potential relinquishment and/or abandonments? Yes__X__ No____ (Land Exchange)

14. Are there any existing and/or potential airspace sites? Yes__X__ No____ (Overhead Power)

15. Discuss anticipated Right-of-Way lead time requirements. Anticipated 8-12 months for ROW Certification.

16. Is it anticipated that Caltrans staff will perform all Right-of-Way work? Yes___ No_X (Oversight only)

17. Summary of Conclusions: No significant ROW requirements with the exception of land exchanges with other public agencies.
FOR PROGRAMMING CAPITAL SUPPORT ONLY
NOT FOR CAPITAL PROGRAMMING PURPOSES
See accompanying Limiting Conditions and Assumptions

To: ____________________________ Date: ____________________________
    Dist: ____________________________
    Attn: ____________________________
          EA: ____________________________
          Project Description: ____________________________

Subject: Right-of-Way PSR PDS Alternate No. 2

1. **Right-of-Way PSR(PDS) Cost Estimate:** Develop a range of values for the alternative under consideration. Enter “High” estimate into PMCS COST RW1-5 Screens.

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<tr>
<th>Item</th>
<th>LOW</th>
<th>HIGH</th>
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</thead>
<tbody>
<tr>
<td>A. Total Acquisition Cost</td>
<td>$0</td>
<td>$0</td>
</tr>
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<td>Acquisition, including Excess Lands, Damages, and Goodwill. Project Permit Fees.</td>
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<td></td>
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<td>B. Utility Relocation [State’s share including Positive Location (potholing)].</td>
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<td>$1,000,000</td>
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<tr>
<td></td>
<td>($200,000)</td>
<td>($1,200,000)</td>
</tr>
<tr>
<td>C. Relocation Assistance</td>
<td>$0</td>
<td>$0*</td>
</tr>
<tr>
<td>D. Clearance/Demolition</td>
<td>$0*</td>
<td>$0*</td>
</tr>
<tr>
<td>E. Title and Escrow</td>
<td>$0</td>
<td>$0</td>
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<td>$1,000,000</td>
</tr>
<tr>
<td>(Escalated Cost $2010)</td>
<td>($200,000)</td>
<td>($1,200,000)</td>
</tr>
<tr>
<td>G. Construction Contract Work</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

* Clearance and Demolition is anticipated to be completed by State Parks

2. **Current Date of Right-of-Way Certification:** 2010/11

3. **Workload Estimate:** To be entered into PMCS EVNT RW Screen.

<table>
<thead>
<tr>
<th>Type</th>
<th>Dual/Appr</th>
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<tbody>
<tr>
<td>X</td>
<td>Minor</td>
<td>U4 - 1</td>
<td>None</td>
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<td>A</td>
<td></td>
<td>- 2</td>
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<td>Design</td>
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<td>Misc: R/W Work</td>
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</tbody>
</table>

Total _________

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<tr>
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<th>R/W</th>
<th>Minor - none</th>
<th>No. Excess Parcels</th>
<th>Entered PMCS Screens</th>
<th>Entered AGRE Screen</th>
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<tbody>
<tr>
<td>R/W</td>
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</tbody>
</table>

Entered PMCS Screens ______/____/____ by ______/____/____
Entered AGRE Screen (Railroad data only) ______/____/____ By ____________

P:\5096\mgmt\PSR\March_Final\PSR_RTE1_Part G_RW.doc 3 12/11/04
4. Resources required by right-of-Way to develop the Project Initiation Document (PID). By Consultant

5. Are there any major items of construction contract work known at this time?
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14. Are there any existing and/or potential airspace sites? Yes_ X__ No_____ (Overhead Power)

15. Discuss anticipated Right-of-Way lead time requirements. Anticipated 8-12 months for ROW Certification.

16. Is it anticipated that Caltrans staff will perform all Right-of-Way work? Yes__ No X (Oversight only)

17. Summary of Conclusions: No significant ROW requirements with the exception of land exchanges with other public agencies.
Evaluation Prepared By:

Right-of-Way: Name Elizabeth Greer/ Jim Wiley Date 11/03
Railroad: Name NA Date
Utilities: Name Elizabeth Greer Date 11/03

Recommended for Approval:

Moffatt and Nichol Engineers

I have personally reviewed this Right-of-Way PSR(PDS) Data Sheet and all supporting information. I believe that the assumptions are reasonable and proper subject to the limiting conditions set forth, and I find this PSR(PDS) Data Sheet complete and current.

Recommended for Approval:

Rosi Dagit, Senior Biologist
Resource Conservation District of the Santa Monica Mountains

December 4, 2003
Date
Utility Information for Alternatives 1 and 2

1. Name of utility companies involved in project:
   - Edison (Power and Telecommunications)
   - Charter Communications
   - Sprint
   - Verizon
   - Falcon Cable
   - Los Angeles Cellular
   - So. Cal Gas
   - LA County DPW Sewer
   - LA County Water Works
   - Malibu Water Company

2. Types of facilities and agreements required:
   Potential for relocation costs, new franchises, etc.

3. Additional information concerning utility involvements on this project:
   Rights will need to be researched to determine responsibilities
   Meetings will need to be held to determine requirements and concerns of owners

4. PMCS Input Information
   Total estimated cost of State’s obligation for utility relocation on this project:
   $ Allowance of $1,000,000
   Note: this could be significantly higher if State is required to assume costs of the larger utilities, especially the water line.

   Utility Involvements
<table>
<thead>
<tr>
<th>U4-1</th>
<th>U5-7</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-3</td>
<td>-9</td>
</tr>
<tr>
<td>-4</td>
<td></td>
</tr>
</tbody>
</table>

   Prepared By: [Signature]
   Right of Way Utility Estimator

   November 4, 2003
   Date
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

H

Preliminary Environmental Assessment Report

PEAR
Preliminary Environmental Analysis Report

Project Information

District _7_ County __LA___ Route _1_ Kilometer Post (Post Mile) 65.3 (40.6) EA 23930 K

Project Title: Topanga Lagoon Restoration

Project Manager ______ Syed Huq __________________________ Phone # (213) 897-3656

Project Engineer ______ Elizabeth Greer, P.E. (M&N) ___________ Phone # (562) 426-9551

Environmental (Manager) Office Chief __Aziz Alattar__ Phone # ___________

Environmental Planner Generalist Barbara Marquez Phone # (213) 897-0791

Project Description

Purpose and Need: The purpose of the project is to reconstruct Pacific Coast Highway (PCH) bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored lagoon. Topanga lagoon was filled by the California Dept of Transportation in the 1930s. As a result, flooding has become problematic at the lower reach of the creek and critical habitat for the endangered steelhead trout and tidewater goby has been severely diminished. This project is needed to accommodate the lagoon restoration which will reduce flooding, improve water quality, and restore habitat for wildlife.

Description of work: Reconstruct PCH roadway and bridge and remove lagoon fill areas. Work may also include relocation or removal of parking, existing structures and access roads. Incidental work such as traffic staging, retaining walls, grading, detour roads, utility relocation, detention basins and exotic plant removal will also be included.

Alternatives: Three alternatives are proposed (including no-build). The first alternative is the realignment of PCH to the south with a longer and wider bridge, relocating parking to the north side of PCH and relocation of utilities; The second alternative is the reconstruction of PCH roadway in its existing alignment with a longer and wider bridge, reconstructed parking on the south side of PCH, and relocation of utilities. The third alternative is the no-build alternative.

Anticipated Environmental Approval

<table>
<thead>
<tr>
<th>CEQA</th>
<th>NEPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Categorical/Statutory Exemption</td>
<td>☑ Categorical Exclusion</td>
</tr>
<tr>
<td>☐ Negative Declaration / focused ND</td>
<td>☑ Finding of No Significant Impact</td>
</tr>
<tr>
<td>☑ Environmental Impact Report</td>
<td>☑ Environmental Impact Statement</td>
</tr>
</tbody>
</table>

An EIR/EIS for the proposed project is anticipated to be required. Caltrans will likely be the lead agency for the Lagoon work, with assistance from California State Parks. The estimated length of time required to obtain environmental approval within 24 months.
PSR Summary Statement

Alternative 1 – Key Environmental Issues:

Roadway Construction (Included in this Project)
- Relocation of public park land - Section 4(f);
- Impacts to steelhead trout and tidewater goby from bridge demolition activity;
- Possibility of sensitive bird species and mammals (bats) nesting in or on the existing bridge;
- Potential for impacts to water quality/sedimentation from construction activities that may negatively impact the lagoon;
- Air quality - Emissions produced from both heavy equipment and dust from grading during the construction, and emissions from construction activities;
- Noise - Noise levels and possible vibration from roadway construction activities;
- Aesthetics of bridge and barrier railings will need to be sensitive to community concerns.

LA County Topanga Beach /State Park Development and Lagoon Restoration/Reestablishment (Separate Projects)
- Relocation of public park land - Section 4(f);
- Impacts to steelhead trout and tidewater goby from construction activity;
- Potential for impacts to water quality/sedimentation from construction activities that may negatively impact the lagoon;
- Potential disturbance to marine organisms, shellfish and invertebrates from dredging/excavation operations;
- Disposal of excavated lagoon fill material;
- Air quality - Emissions produced from both heavy equipment and dust from grading during the construction, and emissions from construction activities;
- Noise - Noise levels and possible vibration from roadway construction activities;
- Preservation of Cultural Resources - Three properties near the lagoon have been evaluated as potentially eligible for the National Register of Historic Places and the California Register of Historical Resources. These are the Topanga Canyon Ranch Motel, Wylie’s Bait Shop, and the Wood Family Cabin. The Topanga Canyon Ranch Motel and Wylie’s Bait Shop will be impacted by the lagoon restoration project.
- Potential for Native American Resources within native excavation areas.

Alternative 2 – Key Environmental Issues:

Roadway Construction (Included in this Project)
- Potential relocation of public park land - Section 4(f);
- Impacts to steelhead trout and tidewater goby from construction of temporary bridge and bridge demolition activities;
- Possibility of sensitive bird species and mammals (bats) nesting in or on the existing bridge;
- Potential for impacts to water quality/sedimentation from construction activities that may negatively impact the lagoon;
Air quality - Emissions produced from both heavy equipment and dust from grading during the construction, and emissions from construction activities;
Noise - Noise levels and possible vibration from roadway construction activities;
Aesthetics of bridge and barrier railings will need to be sensitive to community concerns.

LA County Topanga Beach/State Park Development and Lagoon Restoration/Reestablishment (Separate Projects)
- Relocation of public park land - Section 4(f);
- Impacts to steelhead trout and tidewater goby from construction activity;
- Potential for impacts to water quality/sedimentation from construction activities that may negatively impact the lagoon;
- Potential disturbance to marine organisms, shellfish and invertebrates from dredging/excavation operations;
- Disposal of excavated fill material;
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Constraints:
- Maintaining two lanes of traffic during construction and minimizing traffic impacts;
- Construction windows in the Lagoon to avoid impacts to steelhead and tidewater goby spawning seasons.
- Limitations of construction water and storm water run-off into the lagoon;

Special Considerations
A separate project to determine if excavated material is suitable for beach and/or nearshore ocean deposition has been conducted by Moffatt and Nichol Engineers.

For Alternative 1 and Alternative 2, the following permits may be required:
- California Department of Fish and Game (Streambed Alteration Permit 1601)
- US Fish and Wildlife (Section 7 Consideration/ Bio Opinion)
- Coastal Commission Local Coastal Development Permit
- Regional Water Quality Control Board (401 Water Quality Certification)
- Army Corps of Engineers (Section 10 and 404 Permit)
- LA County Flood Control
- LA County Regional Planning
- Caltrans Encroachment Permit (for lagoon work)
• Encroachment permits from property owners
• National Marine Fisheries Service (Section 7 Consultation)
• State Lands Commission (for Lagoon Impacts)
• SWRCB-Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) during construction phase of the project.

Because remnants of archaeological site CA-LAN-133 may be buried under fill in the APE, monitoring of earth moving by an archaeologist will likely be necessary to identify any potentially eligible archaeological resources. It is likely that a Native American monitor will be also be required. A preliminary Archeological survey is in progress 2003 by California State Parks.

Encountering archaeological deposits during grading could also result in project delays. If archaeological resources are identified during grading, grading must be halted in the vicinity of the find and an archaeological test program will be necessary to evaluate the material using CRHR and NRHP eligibility criteria. State Parks, Caltrans, and FHWA must agree with the eligibility recommendation and then concurrence on eligibility must be obtained from the SHPO. If eligible, a data recovery plan and an MOA will need to be approved by all agencies before data recovery as mitigation can proceed.

Because of the possibility that eligible prehistoric and historic resources will be affected by the project and the multiple state and federal agencies that have jurisdiction, there is the potential for project delays while the results of cultural resources investigations are reviewed by the agencies. In addition, if any of the Topanga Canyon Ranch Motel buildings must be demolished, and this structure is deemed as an historic resource, a CEQA unmitigatable significant impact is likely.

**Anticipated Project Mitigation (for standard PSR only)**

The mitigation measures proposed for both Alternative 1 and Alternative 2 are similar. These mitigation measures may include:

• Replacement of park land as per Department of Transportation Section 4(f) requirement;
• Development Construction techniques that minimize impacts to the existing lagoon.
• Limitations to construction activity within the lagoon to occur outside of peak flow period for fish migration (between November-May);
• Providing fish barriers and establishing buffer zones around known critical habitats;
• Conducting biological surveys to during construction to identify and mitigate disturbance to sensitive species;
• Establishing erosion control plan during construction; install slope drains, check dams, retention basins, soil retention blankets, silt fences, etc. to control erosion and avoid or minimize water quality impacts/sedimentation in the lagoon;
• Temporary stockpile locations for excavated fill material;
• Identification and relocation of cultural resources;
• Incorporation of monitoring and/or a resource identification and recovery plan into the construction requirements for archeological and paleontological resources.
• Air - mitigation measures for construction-related impacts including equipment limitations and controls, dust control measures, and low VOC types paving material. Mitigation measures for project-generated mobile emissions, if any, will be addressed in terms of transportation strategies outlined in the traffic report as well as other standard techniques used to reduce vehicular emissions. Use water truck on construction site to reduce amount of dust in the air;
• Noise - potential mitigation for project construction includes the restrictions that all construction equipment maintain properly working mufflers and be kept in a proper state of tune to alleviate backfires. Construction would also be required to confirm to the local ordinance provisions for hours of operation.
• Traffic - haul traffic may be subject to limitations on hours as well as the use of alternate routes.

Disclaimer

This report is not an environmental document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in this report. The estimates and conclusions provided are approximate and are based on cursory analysis of probable effects. This report is to provide a preliminary level of environmental analysis to supplement the Project Study Report. Changes in project scope, alternatives, or environmental laws will require a re-evaluation of this report.

Reviewed by:

[Signature]
Environmental Office Chief, Aziz Elattar

[Signature]
Project Manager, Syed Huq

Date: 1-30-04
Date: 02/03/04
### Environmental Technical Reports or Studies Required - Alternative 1 & 2

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Discussion of Technical Review – Alternative 1 & 2

Socio-economic and Community Effects. Because of traffic impacts and the removal of some businesses, the project is expected to have an effect on the local community or the economy.

Farmlands. Not Applicable (NA) for the project.

4(f) Impacts. The project will require Department of Transportation 4(f) permitting since it involves temporary and/or permanent impacts to the State Park and beach land.

The project includes impacts to existing 4(f) park land. However, the proposed impacts to 4(f) land may be more of a result of the proposed lagoon restoration than the re-alignment of Pacific Coast Highway.

A 4(f) analysis should be prepared. The Federal Highway Administration (FHWA) jointly with the Federal Transit Administration (FTA) is proposing a nationwide programmatic Section 4(f) evaluation (programmatic evaluation) for use in certain federally assisted or direct Federal transportation improvement projects where the use of land from a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic property will result in a net benefit to the Section 4(f) property. The use of such a programmatic evaluation is intended to promote environmental stewardship and streamline the Section 4(f) process by reducing the time necessary to prepare an evaluation that satisfies Section 4(f) requirements.

This programmatic evaluation would provide an additional procedural option for demonstrating compliance with the requirements of Section 4(f).

Mitigation - The statute and the FHWA regulation (23 CFR 771.135) require all possible planning to minimize harm. All possible planning to minimize harm (i.e., mitigation measures) should be determined through consultation with the official of the agency owning or administering the land. Note that neither the Section 4(f) statute nor the FHWA Section 4(f) regulation require the replacement of Section 4(f) land used for highway projects. However, mitigation measures (other than design modifications in the project to lessen the impact on Section 4(f) land) involving parks, recreation areas, and wild-life and waterfowl refuges will usually entail replacement of land and facilities (of comparable value and function) or monetary compensation which could be used to enhance the remaining land. Mitigation of historic sites usually consist of those measures necessary to preserve the historic integrity of the site and agreed to in accordance with 36 CFR Part 800, by the FHWA, the State Historic Preservation Officer (SHPO), and as appropriate, the Advisory Council on Historic Preservation (ACHP). The cost of mitigation should be a reasonable public expenditure in light of the severity of the impact on the Section 4(f) resource.

Visual Effects. A visual assessment of each of the lagoon restoration alternatives will be required, including the no-build. Project elements include new construction of road/bridge and amenities to be determined, not limited to viewing platforms, bike alignment, emergency services facilities, helipad, etc. The project also includes demolition of the existing roadway and structures, potential relocation of existing structures and parking areas, and lagoon excavation, habitat restoration, and beach enhancements. Because there are many elements to these alternatives, it is recommended that before/after simulations be prepared to help the public visualize the differences between alternatives. The viewshed analysis should consider baseline (existing conditions) and the changes to the landform that will occur in terms of form, line, color and/or texture. Additional discussion follows on visual perception.
Air. Impacts from construction - the project entails the construction of road and bridge and amenities that may include viewing platforms, bike alignments, a helipad, as well as demolition of existing bridge and structures, relocation of existing structures and parking areas, and lagoon excavation and beach enhancements. Emissions produced from both heavy equipment and dust from grading during the construction effort will occur. An analysis is required that will be based on current methodology provided with the URBEMIS2001 air quality model distributed by the California Air Resources Board. Construction fugitive dust will need to take into consideration the length of time of construction, and soiling nuisances especially on any nearby sensitive plants. Mitigation would be provided, and compliance with SCAQMD Rules 402 and 403 for dust control would apply. The model also includes construction emissions associated with the use of heavy equipment vehicles, and the application of asphalt. Equipment exhaust emissions must also be considered, and during final engineering, an estimate of the number of pieces of construction equipment to be operating simultaneously in the will be needed. In addition, dredging will be conducted and the type of dredge to be used will need to be identified as they vary widely in emissions produced. Emissions for these operations need to be calculated and compared with SCAQMD daily threshold values to assess their significance. (SCAQMD no longer requires quarterly threshold values.)

Impacts from operations - operational emissions generated by the new roadway may increase, if the projected use of the road is to increase (see Traffic Section). An operations analysis would need to be conducted using data generated in the traffic analysis and based on the projected mix of daily traffic generated if future projections are considered part of the project.

No additional traffic lanes are anticipated to be constructed with this project. As such it is assumed that the project will remain consistent with the Air Quality Management Plan, and any pertinent established Regional Transportation Plan. This will need to be verified in the environmental document. The air quality analysis likely will not need a detailed consistency review, but it needs to be mentioned in the environmental document in accordance with CEQA guidelines. In addition, a conformity analysis will be required to comply with federal guidelines.

Daily emissions in excess of those threshold levels contained in the SCAQMD Handbook will be deemed significant. Mitigation measures for construction-related impacts may center around equipment limitations and controls, dust control measures, and low VOC types paving material. Mitigation measures for project-generated mobile emissions, if any, will be addressed in terms of transportation strategies outlined in the traffic report as well as other standard techniques used to reduce vehicular emissions.

Noise. Construction - roadway construction activities will elevate the noise and possibly vibration and could exceed local ordinances that could impact sensitive receptors located along/near the project. Additionally, heavy equipment operations associated with construction activities could elevate noise levels not only at the project site but also as along local vehicle routes through Topanga and other beach communities if haul trucks are required for removal of excess material for the lagoon enhancement. Thus, clarification of the construction process and schedule is necessary for the analysis, so those appropriate sensitive receptors can be identified. When those are identified, noise measurements near sensitive receptors may be required, although, since construction is temporary, and since it is assumed that construction hours would comply with the local noise ordinance, then measurements may not be necessary. Another part of the construction for this project may involve pile driving that results in a constant pounding with vibration issues. This would also require consideration and analysis in the noise assessment.
An assessment of noise impacts will need to be related to the County/City Noise Element land use compatibility guidelines and applicable ordinances. Noise impacts from project construction are identified using accepted noise criteria applicable to construction equipment and/or data obtained from previous noise studies. Vibration issues (pile driving) are more difficult to quantify and vibration is typically not included in noise elements and/or ordinances. Still, there is available literature to determine if vibration could present a potentially significant impact.

Mitigation will be proposed for all significant impacts. Though construction noise is normally subject to nuisance provisions of a noise ordinance, it is typically necessary to consider limiting construction hours where sensitive land uses are affected. Potential mitigation for project construction includes the restrictions that all construction equipment utilize properly working mufflers and be kept in a proper state of tune to alleviate backfires. Haul traffic may be subject to limitations on hours as well as the use of alternate routes.

*Operations* - Once construction is completed, the roadway should operate without a substantial increase in noise over existing conditions, assuming that traffic volumes are not projected to increase substantially. The traffic report will be referenced to determine if any further noise assessment for future operations is required.

The realignment of the bridge, addition of retaining walls, helipad operations, relocated buildings may result in changes to the noise environment, such as from noise reflections off of retaining walls affecting nearby residences. A difference in height of the bridge may also result in a slight change of noise conditions. These will need to be taken into consideration in the analysis for operations.

**Wild and Scenic River** N/A (not Federally designated as a wild and scenic river).

**Cultural Resources.** The Department of Parks and Recreation (DPR) has identified and evaluated standing structures within the Lagoon project area. Three properties near the lagoon have been evaluated as eligible for the National Register of Historic Places and the California Register of Historical Resources. These are the Topanga Canyon Ranch Motel, Wylie’s Bait Shop, and the Wood Family Cabin. The Topanga Canyon Ranch Motel and, Wylie’s Bait Shop will be impacted by the project, based on current plans. Demolition of some of the Motel buildings would be necessary.

A recent court case determined that recordation (usually consists of large format photography and historical research) is not sufficient to reduce impacts to eligible historical resources to less than significant under CEQA. Thus, if identified as historical, the demolition of any of the Topanga Canyon Ranch Motel buildings would constitute and unmitigatable significant impact. This would require a Statement of Overriding Considerations in the project EIR.

For the federal Section 106 process, Caltrans will likely be the lead agency because realignment and a new bridge is proposed for State Highway 1. An Area of Potential Effect (APE) must be defined and the boundaries must be shown on an APE map. The APE map must be approved by Caltrans and the Federal Highways Administration (FHWA). A Historic Architectural Survey Report (HASR) must be prepared for all structures in the APE. Building, Structure, Object forms containing an evaluation using NRHP criteria must be prepared for each property in the APE. The HASR will be appended to a Historic Property Survey Report (HPSR). Topanga Creek Bridge, constructed in 1933, was evaluated for historic status in the 1985 Caltrans Bridge Inventory. It was found to be ineligible for inclusion on the National Register, but will be require re-evaluation for this project.
State Parks also has reported that a large prehistoric archaeological site, CA-LAN-133, was recorded at the mouth of Topanga Canyon in 1905. It is possible that this represents a residential site with burials. Recent surveys have not been able to verify the presence of the site, although marine shell has been reported in the vicinity of the Topanga Canyon Ranch Motel. This may not represent an archaeological site, however, because the motel was built on fill from the widening of SR 1 that was placed there in 1933. It is still possible that grading for the lagoon enhancement could affect buried remnants of CA-LAN-133. An Archaeological Survey Report (ASR) that meets Caltrans standards will need to be prepared. It will contain the results of a records search and a field survey.

The HPSR, HASR, and ASR will be submitted for review by State Parks, Caltrans, and FHWA. When approved by these agencies, FHWA will submit the package to the State Historic Preservation Officer (SHPO) for concurrence with the determination of eligibility for the historic structures in the APE. A Determination of Effects will then be prepared to determine whether any eligible structures, such as the motel, will be adversely affected (demolished). If so, a Memorandum of Agreement (MOA) containing mitigation measures will be written and signed by all the regulatory agencies and the project proponent. Under the federal Section 106 process documentation is usually sufficient to reduce effects to less than adverse.

Native American Coordination. The following Native American tribes or groups may have an interest in or be affected by the proposed project—the Chumash and the Tongva (Gabrielino).

Hazardous Waste/Materials. An Initial Site Assessment (ISA) by GeoPentech has been completed and has identified the potential for hazardous materials in the area that could impact construction. It also identifies the presence of mercury above EPA preliminary remediation goals and recommends further assessment.

Biological Resources. Construction activity for this project may affect sensitive biological resources listed as “endangered” or “threatened”. Further, the project has the potential to impact or interfere with the movement of resident or migratory fish or wildlife. Formal consultation with Federal and State regulatory agencies on the steelhead trout, tidewater goby, and other listed (animal/plant) species will be required. The U.S Fish and Wildlife Service and the National Marine Fisheries Service have regulatory authority under sections 7 and 9 of the Endangered Species Act. The California Department of Fish and Game has authority under the California Endangered Species Act.

The project area should be inspected for the presence/absence of bats, nesting birds and other protected species. Bird and bat surveys should be completed in the spring/summer season. There are several known sensitive plant species in this location, including the federally listed endangered Braunton’s milkvetch, Ventura marsh milkvetch and the federally listed threatened Santa Monica Mountains dudleya. Several other sensitive species known to occur in Topanga Canyon have been listed by the California Native Plant Society (CNPS).

Specific mitigation might include limiting the timing and duration of construction activities to occur outside of the breeding and/or nesting seasons of sensitive species. Mitigation might also include establishing minimum distances or buffer zones to protect (a) sensitive resource(s). Ongoing biological monitoring may also be considered as mitigation. Avoid negative impacts to water bodies by establishing an erosion control plan. During construction, install slope drains, check dams, retention basins, soil retention blankets and silt fences etc. to control erosion and avoid or minimize water quality impacts/sedimentation of the lagoon.
Wetlands. Executive Order 11990 requires an avoidance alternative analysis for wetland impacts unless there is no practicable alternative available. The proposed project is intended to enhance wetlands; however, a delineation of jurisdictional wetlands and waters of the United States will still be required to be completed, and impacts from the project to wetlands and waters of the U.S., including any temporary facilities will need to be quantified.

Invasive Pest Plant Species. Executive Order 13112 requires that any Federal action may not cause or promote the spread or introduction of invasive species. This project will not promote or cause the spread of invasive species. In addition, exotic plant removal shall be implemented as part of the associated Lagoon Restoration Project. After exotics are removed, a native vegetation reseeding/replanting program shall be implemented apart from this specific project.

Right-of-Way Relocation or Staging Area. Preliminary right-of-way impacts are similar for both alternatives. This includes a partial take from a private residence, and temporary construction easements from various landowners. Utilities that require relocation as part of the project will require new easements and/or license agreements.

The several buildings and businesses located with the State Parks property will require relocation and or demolition. These removals and/or relocations are not included in the bridge project and are assumed to be completed by California State Parks in advance of the project construction.

Right-of-way in fee or easement will also need to be acquired from and/or relinquished to both Los Angeles County Beaches and Harbors and the California State Parks. It is anticipated these agencies and Caltrans will be amenable to providing right-of-way and right-of-way services as part of their contribution towards the Project.

Material sites and disposal sites are indicated, but not identified.

Mitigation (For standard PSR only).

Mitigation for temporary and permanent impacts to sensitive biological resources (wetlands, riparian vegetation, regulated plants and animals) will be required. Mitigation for impacts to waters of the United States, and, steelhead and tidewater goby habitat will likely be required. Construction windows within the creek may be limited to between June 1 and October 31 for steelhead mitigation, and, temporary roosts may be required for raptors and/or bats displaced by construction disturbance. Avoidance of swallow nests, or nest exclusion netting may be required from March 1 through September 1. For this project, mitigation could include avoiding critical habitats, following a water quality and erosion control plan, restricted construction scheduling, habitat enhancement, habitat restoration, or habitat replacement.

Mitigation for any negative impacts may be connected to an action plan. The action plan or plans should either avoid the impact altogether, minimize the degree or magnitude of the activity causing the impact, rectify (by either rehabilitating, restoring, or repairing) the affected environment, reduce or eliminate the impact over time (typically by maintenance) or compensate for the impact by replacing or providing substitute resources or environments.

Permits. Permits from the State Department of Fish and Game (1601), U. S. Army Corps of Engineers (an individual Section 10 and 404 Permit will probably be required because wetland/waters may be impacted), and the Regional Water Quality Control Board (401) will be required. The California Coastal Commission’s Coastal Development Permit (CDP) is also expected for the material site and disposal site. Additional permits from the US Fish and Wildlife
(Section 7 Consideration/ Bio Opinion), Permit, LA County Flood Control, LA County Regional Planning, Caltrans Encroachment Permit (for lagoon work), Encroachment permits from property owners, National Marine Fisheries Service (Section 7 Consultation), State Lands Commission (for Lagoon Impacts) and City of Malibu may also be required.

Coastal Zone. This project is within the County coastal jurisdiction and will require a County Coastal Development Permit. It is within the state’s coastal jurisdiction and it is within the state’s appealable jurisdiction.

Cumulative Impacts

This project is considered to have net beneficial effects on the Lagoon and Beach as it is a vital element of the overall watershed improvement and lagoon restoration plan. Lengthening the bridge will increase the capacity of the Lagoon for aquatic biology, improve water quality and provide for adequate flood conveyance.

The adjacent property, which is owned by State Parks, is projected to become a restored public park and restored wetlands for recreation and sensitive biological resources. This is in accordance with the Topanga State Park General Plan Revision being developed by California State Parks in coordination with LA County Department of Beaches and Harbors.

This project may create minor temporary minor negative impacts during construction; however, these are far exceeded by the net benefits to the watershed. Mitigation to construction may include limiting construction activity within the Lagoon during fish migration periods.

List of Preparers

| Hazardous Waste Review by Steve Duke, Geopentech | Date 2/20/2003 |
| Biological Review by Craig Frampton, MNE | 2/24/03 |
| Cultural Review by Roger Mason, Ph.D., Chambers Group | 2/24/03 |
| Community Impact Review by Craig Frampton, MNE | 2/26/03 |
| Visual, Air Quality, Noise Reviews by Linda Brody, Chambers Group | 2/24/03 |
| Floodplain Review by Weixia Jin, MNE | 2/20/03 |
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

I

Mitigation and Compliance Cost estimate
Attachment A1 - PEAR Mitigation and Compliance Cost Estimate *(Standard PSRs Only)*

Dist.-Co.-Rte.-KP/PM: 7 - LA -1 - 65.3/40.6  
EA: 23930 K

Project Description: **Alternative 1** - Reconstruct PCH roadway and bridge with new alignment. Work may include relocation or removal of parking, traffic staging, retaining walls, grading, detour roads, utility relocation, detention basins and access roads. Removal of lagoon fill and relocation of State Park buildings will be covered under separate contracts and regulatory permitting.

Person completing form: Elizabeth Greer/Craig Frampton, Moffatt and Nichol

Project Manager: Syed Huq Phone number: (213) 897-6714

Date: Nov 2003

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- Costs are to be reported in $1,000's.
- Costs are to include all costs to complete the commitment including: 1) capital outlay and staff support; 2) cost of right-of-way or easements; 3) long-term monitoring and reporting; and 4) any follow-up maintenance.

¹ Mitigation that Caltrans would normally do if not required by a permit or environmental agreement.

² Mitigation that Caltrans would normally do but is required by conditions of a permit or environmental agreement.

³ Mitigation that Caltrans would not normally do and is not required by a permit or Enviro. Agreement, but is required by a law.

⁴ Non-mitigation Caltrans would not normally do but is required by conditions of a permit or agreement.

Assumptions:

⁵ Relocation of structures to be performed under separate contract by State Parks.

⁶ Even exchange of park land for roadway; costs to be paid by State Parks.
## Attachment A2 - PEAR Mitigation and Compliance Cost Estimate (Standard PSRs Only)

**Dist.-Co.-Rte.-KP/PM:** 7 - LA - 1 - 65.3/40.6  
**EA:** 23930 K

**Project Description:** Alternative 2 - Reconstruct PCH roadway and bridge in the existing alignment. Work may include relocation or removal of parking, traffic staging, retaining walls, grading, detour roads, utility relocation, detention basins and access roads. Removal of lagoon fill and relocation of State Park buildings will be covered under separate contracts and regulatory permitting.

**Person completing form:** Elizabeth Greer/Craig Frampton, Moffatt and Nichol

**Project Manager:** Syed Huq  
**Phone number:** (213) 897-6714

**Date:** Nov 2003

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<td>COE 404 Permit- Nationwide</td>
<td></td>
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<tr>
<td>COE 404 Permit- Individual</td>
<td></td>
</tr>
<tr>
<td>COE Section 10 Permit</td>
<td>22</td>
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<tr>
<td>COE Section 9 Permit</td>
<td></td>
</tr>
<tr>
<td>Install Fish Screens/Barriers</td>
<td>15</td>
</tr>
<tr>
<td>Relocate Historic Structures</td>
<td>0 (5)</td>
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<tr>
<td>Replace 4(f) park land</td>
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<tr>
<td>Water Quality/Erosion Control</td>
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<td>Noise attenuation</td>
<td>30</td>
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<td>Special landscaping</td>
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<tr>
<td>Biological</td>
<td>105</td>
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<td>Historical</td>
<td>35</td>
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<td>Scenic resources</td>
<td>13</td>
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<td>Wetland/riparian</td>
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<tr>
<td>Other:</td>
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<td>Paleontological</td>
<td>9</td>
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<tr>
<td>Air Quality</td>
<td>25</td>
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<tr>
<td><strong>TOTAL (Enter zeros if no cost)</strong></td>
<td><strong>457</strong></td>
</tr>
</tbody>
</table>

- Costs are to be reported in $1,000’s.
- Costs are to include all costs to complete the commitment including: 1) capital outlay and staff support; 2) cost of right-of-way or easements; 3) long-term monitoring and reporting; and 4) any follow-up maintenance.

Mitigation that Caltrans would normally do if not required by a permit or environmental agreement.

Mitigation that Caltrans would normally do but is required by conditions of a permit or environmental agreement.

Mitigation that Caltrans would normally do and is not required by a permit or Enviro. Agreement, but is required by a law.

Non-mitigation Caltrans would not normally do but is required by conditions of a permit or agreement.

Assumptions:

Relocation of structures to be performed under separate contract by State Parks.

Even exchange of park land for roadway; costs to be paid by State Parks.
TOPANGA LAGOON BRIDGE REPLACEMENT
PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)

ATTACHMENT

J

NPDES Information Sheet
NPDES INFORMATION SUBMITTAL

Project name: Topanga Lagoon Restoration  Dist. 07  Co. LA  Rte 1
Description of Work: Bridge Reconstruction  KP 65.3  PM 40.6
Reconstruction of Pacific Coast Highway (PCH) bridge at Topanga Lagoon to improve flood conveyance and accommodate an enlarged and restored lagoon.  EA:23930K
Project Engineer: Elizabeth Greer, M&N  Phone: 562-426-9551
Project Manager: Rosi Dagit, RCDSSM  Phone: 310-455-1030
Dist PS&E date: 2010  PS&E to HQ date: 2010
Target construction beginning and completion date: 2010/2012

☐ Will project impact existing slopes?
☐ Will project create new slopes?
☐ Have Federal or State listed aquatic resources been identified in receiving waters on or adjacent to the site? If yes, what? Water Quality Standards Inventory Database indicates status the Lagoon for every category as existing beneficial uses; however, the primary resource is wetlands with endangered species (see attachment).
☐ Is soil disturbing activity occurring within 1/4 mile of a perennial surface water or a storm drain that drains directly to a perennial surface water?
☐ Any requirements regarding water quality identified in the Environmental Document? If yes, what? Environmental Document has not been done yet
☐ Any Federal or State permit required for this project? If, yes, please list the names of the permits: California Fish and Game, Coastal Commission Permit, Regional Water Quality Control Board (401), Army Corps of Engineers (404), Caltrans Encroachment Permit (for lagoon work), Encroachment permits from property owners, A Storm Water Pollution Prevention Plan (SWPPP) will be prepared, and Notice of Intent (NOI) filed during the construction phase of the project, National Marine Fisheries Service (Section 7 Consultation), State Lands Commission (for Lagoon Impacts)

☐ Will the project use lead contaminated soil as backfill?
☐ Total land disturbed: 4.0 hectares, 10.0 acres
☐ What is the proposed slope gradient (v:h): 1:2
☐ What is the existing soil type (i.e. sandy, clay, etc.)? Sandy
☐ Is it potential for significant sediment discharge? Possible

Describe condition of existing vegetative coverage on existing slopes: Native and non-native plants.
What is the existing drainage pattern? Drainage directly into the Lagoon
Identify receiving waters: Topanga Lagoon
What is their condition? Functional Habitat
Area exposed for the following work (hectares/ acres):
Area to be cleared TBD, Area to be cut TBD, Area to be filled TBD
Staging area TBD, Access road TBD, Utility relocation TBD
Estimate the type of areas adjacent to project site, approximately;
% undeveloped, % urban, % residential, 100% others.
Describe the proposed location and condition of access road: Below the bridge

Additional remarks:

This is preliminary information for the PSR/PDS document

Submit by: Elizabeth Greer, M&N  Date: July 31, 2003
ATTACHMENT

K

Storm Water Data Report
Storm Water Data Report
07-LA 1 KP 65.3-66.3 (PM 40.6-41.2)
TOPANGA LAGOON RESTORATION

Dist-County-Route: 07-LA 1.07-LA 1
Kilometer Post (Post Mile) Limits:
  KP 65.3-66.3 (PM 40.6-41.2)
Project Type: Bridge Construction
EA: EA 23930K
R:\:
Program Identification: HE12
Phases:
  IPID
  PA/ED
  PS&E

Regional Water Quality Control Board(s): Los Angeles Region 4

Is the Project exempt from incorporating Treatment BMPs?
Yes ☐ No ☑
If yes, attach the Exemption Documentation Form

Are new Treatment BMP's incorporated into the Project?
Yes ☑ No ☐

Estimated Construction Start Date: January 2010

Notification of Construction (NOC) Date to be Submitted: 2010

Notification of ADL reuse (if yes, provide date)
Yes ☐ Date__________ No ☑ N/A ☑

Separate Dewatering Permit (if yes, permit no.)
Yes ☑ Permit #__________ No ☐ N/A ☑

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person
attests to the technical information contained herein and the data upon which recommendations, conclusions,
and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

[Signature] November 2003

Registered Project Engineer

I have reviewed the storm water quality design issues contained in the Storm Water Data Report and Attachments
attached hereto, and find the data to be complete, current, and accurate:

[Signature] 12/11/2003
Project Manager

[Signature] 12/15/2003
Designated Maintenance Representative

[Signature] 1/14/07
Designated Landscape Representative

[Signature] 1/15/04
Design District Regional Storm Water Coordinator or Designee

K:\0996\mgmt\PSR\November\PSR_RTE1_Part K_Storm Water Data Report.doc

Page 1
1. Project Description

- Briefly describe the type of project and major engineering features, including description of soil disturbance area and cut/fill slopes.

Construction of a new bridge is association with Lagoon restoration. Major excavation and slope grading of Lagoon banks. Construction of a helipad on fill and access road grading.

- Include soil classifications and geology information, if pertinent.

Sands/silty sands

2. Define Site Data and Storm Water Quality Design Issues (refer to Checklists SW-1, SW-2, and SW-3)

(Project Engineer (PE) should also confer with NPDES Coordinator, Landscape Architecture, Maintenance, Hydraulics, and Environmental Unit to define design issues); Summarize pertinent information contained in the Preliminary Geotechnical Report (PGR) and other source documents identified on SW-1. Compilation of answers to question in SW-2 and SW-3 should be provided below. Not all information listed is required or available at each phase for all projects depending on conditions.

- Receiving water bodies/303(d) list/Pollutants of concern (SW-2, Questions 1-4)
  Santa Monica Bay at Topanga Creek is listed for coliform bacteria.

- RWQCB special requirements/concerns (SW-2, Question 5)
  Beneficial uses include primary contact swimming, surfing and boating. No TMDL’s have been set at this time for this specific location.

- Local agency requirements/concerns (SW-2, Questions 6 and 7)
  RWQCB, USACOE, LACDPW will require rainy season restrictions on construction to reduce sedimentation and provide erosion control benefits.
  NMFS, USFWS and CDFG will additionally restrict construction during the breeding season of endangered steelhead trout and tidewater gobies to ensure that all fish are excluded from the construction zone and that no runoff from the construction zone will enter either Topanga Creek or the ocean with potential harmful effects.

- Project design considerations (climate, soil, topography, geology, groundwater, right-of-way requirements, slope stabilization) (SW-2, Questions 8-16)

  The project is located in the Mediterranean region of the Santa Monica Mountains, with rainfall seasonally concentrated during the months of October – May. A full documentation of rainfall and creek discharge is provided in the Topanga Creek Watershed and Lagoon Restoration Feasibility Study, (Reference 4). The seasonal opening and closing of the lagoon entrance is fully documented in the Erosion and Sediment Transport Study (Reference 6). Typically the berm at the lagoon mouth is closed as a result of wave forced beach transport, as well as mechanical management by LA County Department of Beaches and Harbors. The mouth opens once the creek system is charged sufficiently to overcome the berm, and remains open during most of the rainy season, as long as the flow is sufficient.

  A preliminary soils study (Reference 7) was completed in March 2003, with 10 hollow stem auger borings drilled and logged to a depth of 35 feet throughout the fill material that comprises all 4 quadrants of land surrounding the PCH bridge. This fill material was imported from local sites in the 1930’s when the existing ridge was built. Borings were sampled every 2-3 feet for laboratory analysis of particle size distribution and for chemical compounds. In addition, cone penetrometer tests were also performed to investigate deeper conditions related to locations of potential bridge footings. A summary of that information is available upon request.

  The total disturbed soil area of the proposed bridge project is approximately 800,000 cubic yards and includes the excavation of the fill material in order to restore the lagoon to an area of approximately 15.5 acres. This design alternative for lagoon restoration is a result of extensive input from the community.
and reflects the unique opportunity for restoring rare wetlands to Los Angeles County, where over 95% of these important ecological features have been lost to development.

The topography of the lagoon is characterized by almost vertical slopes on both the east and west side of the creek channel. Elevation rises from sea level at the southern end of the project area on Topanga Beach to almost 35 feet at the existing grade of PCH. The existing lagoon is approximately 2.2 acres and now subject to uncontrolled stormwater runoff from all surrounding road and parking surfaces.

The existing alignment of the road is within the documented Caltrans Right of Way. Discussions are underway with CA Department of Parks and Recreation and Los Angeles County Department of Beaches and Harbors (adjacent landowners) to develop an agreement on how to legally realign the road to accommodate the proposed repair.

It is expected that any Right of Way issues related to design, construction and maintenance of any BMP's will be included in the on-going agreement development.

Slope stabilization of the areas outside the footprint of the existing bridge will be accomplished within the context of lagoon restoration to provide essential habitat for endangered fishes. The proposed project designs address issues to minimize erosion and sedimentation, provide road runoff dissipation and filtration, with the goal of meeting and exceeding the NPDES requirements.

Land use within the entire project is public open space, a part of Topanga State Park and Topanga Beach. No development or improvements other than bridge replacement and lagoon restoration are expected.

- Right-of-way BMP costs and funding (SW-2, Questions 17 and 18)

  No costs are expected in association with the Right of Way agreement under development between Caltrans, CA Department of Parks and Recreation and Los Angeles County Department of Beaches and Harbors. Some costs may be incurred related to relocation of utilities.

- Measures for avoiding or reducing potential storm water impacts (SW-3)

3. Regional Water Quality Control Board Agreements

Briefly describe any key negotiated understandings or agreements with RWQCB pertaining to this project, including project exemptions or exclusion of permanent treatment BMPs. Include any specific meeting dates and contact names that design related recommendation or agreements were addressed.

No agreements have been reached at this time, however the representatives of the RWQCB have been active participants in developing the design alternatives and will continue to partner as the project proceeds.

4. Describe Proposed Design Pollution Prevention BMPs to be used on the Project.

(Summarize responses to Checklist DPP-1, Parts 1-5)

Downstream Effects Related to Potentially Increased Flow, Parts 1 and 2

- Velocity or volume of downstream flow: Velocity will be reduced but volume will remain the same as the sources will not change as a result of the project.
- Existing: 6m/sec in Lagoon
- Post Construction: 2m/sec in Lagoon
- Channels condition and design: Significant improvement will result from the increased span of the bridge and lagoon restoration.
- Sediment loading potential: Reduced significantly by removal of fill materials surrounding the existing bridge and regrading and revegetation of surrounding slopes.
- Hydraulic changes (realignment, encroachment): The lowered water levels associated with expanded lagoon capacity will allow restoration of a more natural flow regime.
Slope/Surface Protection Systems, Parts 1 and 3

- Cut and fill requirements: Approximately 800,000 cubic yards of fill material will be excavated to accommodate the expanded lagoon footprint and bridge span.
- Existing slope conditions: Exposed vertical walls with patches of invasive exotic vegetation will be restored on all 4 quadrants of the project site.
- Total BMP area (before and after construction): Approximately 16 acres will be restored.
- Vegetated surfaces (plants, soils, mulch, blankets, establishment periods): A suite of appropriate bio-engineered strategies will reinforce the restored slopes and allow establishment of native lagoon, transition and upland zone vegetation within a 5 year period post construction.
- Hard surfaces (rock blankets, paving): Several possible strategies including but not limited to gabions, geo-textile fabrics and other bio-engineered methods may be included in the final design to address any potential problem site.

Concentrated Flow Conveyance Systems, Parts 1 and 4

- See Drainage Quantity Sheet: The amount of drainage is expected to remain the same or less than the current condition.
- List locations and unit volume of protection/velocity dissipation devices BMPs. Reference the current Construction Cost Data Book or local source for applicable unit costs: Due to the preliminary nature of the design, it is not possible to calculate specific volumes at this stage. This information will be developed as the design is refined.

Preservation of Existing Vegetation, Parts 1 and 5

- Areas of clearing and grubbing identified and defined in the contract plans: The removal of fill materials may extend to approximately 16 acres.
- Maximize preservation (floodplains, wetlands, problem soils, steep slopes): The proposed alternatives are specifically designed to increase the footprint of the lagoon from 2.2 acres to approximately 15.5 acres (inclusive of upland areas) as well as lay back the slopes to provide greater stability, reduce erosion and increase filtration of pollutants.
- Documentation of preservation areas: The sensitive areas on the north edge of the project area within and adjacent to Topanga Creek will be shown on the final plans. Documentation of sensitive resources is in progress. The other protected areas include the beach face, the lifeguard headquarters and access road on the east side and the private residences on the west side.

5. Describe Proposed Permanent Treatment BMPs to be used on the Project
(Summarize responses to Checklist 7-I, Parts I-7)

Biofiltration Swales/Strips, Parts 1 and 2

- Project Definition of New Construction or Major Construction: The project area including both the bridge replacement and lagoon restoration covers approximately 16 acres.
- Tributary Area: Topanga Creek and Pacific Ocean
- Design Storm Flow Velocities: The alternatives have been designed based on a 100 year flood event.
- Scour Velocity: Pending geotechnical investigation
- Natural or low cut sections: The reconfigured slopes will be secured with bio-engineered methods and vegetation with appropriate native species.

Dry Weather Diversion, Parts 1 and 3

- Persistence of dry weather flows: Flows into the lagoon are year round, although much less during the summer months. They are also influenced by periodic inundation by high high tides.
- Proximity to sanitary sewer: There are no sewer lines in the project area.
- Publicly Owned Treatment Works (POTW) and local health agencies acceptance: There are no publicly owned treatment works in the project area or watershed.
Need for existing sanitary sewer pipeline upgrade: Not applicable

Infiltration Basins, Parts 1 and 4
- Approximate tributary area of impervious surface per infiltration basin: Not applicable
- Water Quality Volume (WQV) treated per treatment infiltration basin: Not applicable
- Soil permeability: A summary of fill material characteristics is found in the Soil Study Report (Reference 7).
- Groundwater depth: Groundwater depth varies with season and tidal influences. It was reached at a depth of 26’ in December 2002.
- Threat to local groundwater quality: Groundwater quality should improve as a result of this project.
- Infiltration rate: Unknown at this time.
- Slopes: Unknown at this time.

Detention Basins, Parts 1 and 5
- Approximate tributary area of impervious surface per treatment detention basin: This will determined when construction plans are developed.
- WQV treated per treatment detention basin: To be determined when construction plans developed.
- Geotechnical Integrity: Detention basins will be placed in suitable geological locations as determined when construction plans developed.
- Groundwater depth: Variable depending on season and tides.
- Hydraulic head sufficiency: Not known at this time.

Gross Solids Removal Devices, Parts 1 and 6
- Receiving water on a 303(d) list for trash or Total Maximum Daily loads (TMDLs) and requires trash removal: Santa Monica Bay has a zero limit for Trash, so all construction debris will need to be collected for appropriate disposal. These structures will be of limited size due to the constraints of the site.
- Sufficient access for maintenance and large equipment: Appropriate areas are available.
- Peak design flow: No instream trash collection is envisioned at this time.

Traction Sand Traps, Parts 1 and 7
- Estimated volume of traction sand applied (S) (m³/yr): Not applicable
- Sand trap cleaning frequency and Maintenance operational needs: Not applicable
- Estimate volume of traction sand: (V) (m³): Not applicable
- Estimated volume of traction sand trap: Not applicable

6. Construction Cost Information
Reference: Table F3 from the Storm Water Quality Handbook, Project Planning and Design Guide September, 2002: Table F3
1) For Landscaping Projects that involve clearing and grubbing near adjacent water bodies use 15% of Total Construction Cost (Landscaping portion)
   $2,000,000* 15% = $300,000
2) New Project with large percentage of structural work 2%. 
   $20,000,000*2% = $400,000 < Controls

7. Maintenance BMPs (Drain Inlet Stenciling)
   Drain Inlet Stenciling will not be needed.
ATTACHMENTS:

⇒ Vicinity Map

⇒ * Pertinent Correspondence with RWQCB, if required
⇒ Checklist SW-1, Site Data Sources
⇒ Checklists SW-2, Storm Water Quality Issues Summary
⇒ Checklist SW-3, Measures for Avoiding or Reducing Storm Water BMPs
⇒ Checklist DPP-1, Parts 1–5 (Design Pollution Prevention BMPs)
⇒ Checklist T-1, Parts 1–7 (Treatment BMPs)
⇒ Backup BMP cost information for PPCE. PPCE form can be found on-line in Appendix L of the PDPM

Backup BMP:
Reference: Table F3 from the Storm Water Quality Handbook, Project Planning and Design Guide September, 2002: Table F3
3) For Landscaping Projects that involve clearing and grubbing near adjacent water bodies use 15% of Total Construction Cost (Landscaping portion)
   $2,000,000 * 15% = $300,000
4) New Project with large percentage of structural work 2%.
   $20,000,000 * 2% = $400,000 < Controls

   Estimated Cost with 25% Contingencies = $500,000

⇒ * CSWPPP and Layout Sheets, if available
⇒ * Drainage Course
⇒ * Conceptual Drainage Map

*Not Available at this PSR/PDS Phase of Design
<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES ✓</th>
<th>NO ✓</th>
<th>SUPPLEMENTAL INFORMATION FOR EXEMPTION</th>
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<tr>
<td>1.</td>
<td>Start</td>
<td></td>
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<td>Go to 2</td>
</tr>
<tr>
<td>2.</td>
<td>Will there be direct or indirect discharge to surface water?</td>
<td>✓</td>
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<td>If yes, go to 3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If no, project is exempt. Go to 14.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Comment on location of project relative to nearest receiving water.</td>
</tr>
<tr>
<td>3.</td>
<td>Is this an emergency project?</td>
<td>✓</td>
<td></td>
<td>If yes, project is exempt, go to 14.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>If no, go to 4.</td>
</tr>
<tr>
<td>4.</td>
<td>Does the project constitute new construction or major reconstruction?</td>
<td>✓</td>
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<td>If yes, go to 13</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>If no, go to 5. Document why it is or not considered a new facility (new construction, major reconstruction, significant construction or reconstruction projects are considered new.)</td>
</tr>
<tr>
<td>5.</td>
<td>Will there be a change in line/grade or hydraulic capacity?</td>
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<td>If yes, go to 6.</td>
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<td></td>
<td>If no, go to 8.</td>
</tr>
<tr>
<td>6.</td>
<td>Is disturbed soil area greater than or equal to 2 hectares?</td>
<td></td>
<td></td>
<td>If yes, go to 13.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If no, go to 7. Provide disturbed soil area in hectares.</td>
</tr>
<tr>
<td>7.</td>
<td>Part of a common plan of development?</td>
<td></td>
<td></td>
<td>If yes, go to 13.</td>
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<td>If no, go to 8.</td>
</tr>
<tr>
<td>8.</td>
<td>Do the project limits encroach upon a High Risk Area?</td>
<td></td>
<td></td>
<td>If yes, go to 13.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>If no, go to 9. Document source.</td>
</tr>
<tr>
<td>9.</td>
<td>Are there location specific requirements established by the RWQCB or other local agencies?</td>
<td></td>
<td></td>
<td>If yes, go to 13. Briefly describe.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>If no, go to 10.</td>
</tr>
<tr>
<td>10.</td>
<td>Is the project in a Municipal Separate Storm Sewer System (MS4) jurisdiction?</td>
<td></td>
<td></td>
<td>If yes, go to 11.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If no, project is exempt, go to 14.</td>
</tr>
<tr>
<td>11.</td>
<td>Are there Municipal Separate Storm Sewer (MS$) specific requirements?</td>
<td></td>
<td></td>
<td>If yes, go to 13. Briefly describe.</td>
</tr>
<tr>
<td></td>
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<td>If no, go to 12.</td>
</tr>
<tr>
<td>12.</td>
<td>Will the storm drain system be modified, replaced or upgraded?</td>
<td></td>
<td></td>
<td>If yes, go to 13.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If no, project is exempt, go to 14.</td>
</tr>
<tr>
<td>13.</td>
<td>Consider approved Treatment BMPs.</td>
<td>✓</td>
<td></td>
<td>Project is not exempt based on these criteria. Go to Section 5.5 for BMP Evaluation and Selection Process and Checklist T-1 and Decision Tree T-1 in this Appendix.</td>
</tr>
<tr>
<td>14.</td>
<td>Document for project files by completing this Exemption Documentation Form and SWDR.</td>
<td></td>
<td></td>
<td>Attach this form to the SWDR.</td>
</tr>
<tr>
<td>15.</td>
<td>End</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Checklist SW-1, Site Data Sources

Information for the following data categories should be obtained, reviewed and referenced as necessary throughout the project planning and design phases. Collect any available documents pertaining to the category and list them and reference your data source. For specific examples of documents within these categories, refer to Section 5.5 of this document.

<table>
<thead>
<tr>
<th>DATA CATEGORY/SOURCES</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topographic</strong></td>
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<tr>
<td>• Geotechnical Investigation</td>
<td>Needed</td>
</tr>
<tr>
<td>• Preliminary Geotechnical Report, GeoPentech</td>
<td>2003</td>
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<tr>
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<tr>
<td><strong>Hydraulic</strong></td>
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<tr>
<td>• Final Hydraulic Study</td>
<td>Needed</td>
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<td>• Preliminary hydrologic and hydraulic study using MIKE 11</td>
<td>November 2002</td>
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<td>•</td>
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<td><strong>Soils</strong></td>
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<td>• Geotechnical Investigation</td>
<td>Needed</td>
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<tr>
<td>• Soils Characterization Study, GeoPentech</td>
<td>3/03</td>
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<td>•</td>
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<tr>
<td><strong>Climatic</strong></td>
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</tr>
<tr>
<td>• Rainfall and stream discharge data</td>
<td>Compiled to date</td>
</tr>
<tr>
<td>• Tide and wave data</td>
<td>Available</td>
</tr>
<tr>
<td>•</td>
<td></td>
</tr>
<tr>
<td><strong>Water Quality</strong></td>
<td></td>
</tr>
<tr>
<td>• Weekly data from Topanga Beach, Hyperion Treatment Plant</td>
<td>Available</td>
</tr>
<tr>
<td>• Weekly data from Heal the Bay</td>
<td>Available</td>
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<tr>
<td><strong>Other Data Categories</strong></td>
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<tr>
<td>• EIR/EIS</td>
<td>Needed</td>
</tr>
<tr>
<td>• Endangered Fishes and Sensitive Biological Resources</td>
<td>RCDSMM 5/03</td>
</tr>
<tr>
<td>• Topanga Creek Watershed Management Plan</td>
<td>2002</td>
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</tbody>
</table>
The following questions provide a guide to collecting critical information relevant to project storm water quality issues. Complete responses to applicable questions, consulting other Caltrans functional units (environmental, landscape architecture, maintenance) and the District/Regional NPDES Coordinator as necessary. Refer to Checklist SW-1 for data sources to develop responses. Attach pertinent information to the SWDR.

1. Identify the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation)?

2. For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern.

3. Identify potential pollutant sources within the right-of-way to be treated and/or hazardous materials of concern?

4. Are there any locations where spills from Caltrans owned rights-of-way, activities or facilities can discharge directly to municipal or domestic water supply reservoirs or groundwater percolation facilities? Consider appropriate spill contamination and spill prevention control measures for these new areas.

5. What are the RWQCB special requirements, including beneficial uses of receiving waters and groundwater, TMDLs, or effluent limits?

6. Do regulatory agencies have seasonal construction restrictions? If so, list restrictions applicable to the project.

7. Are there any specific rainy season dates and construction work exclusion dates required by state or local regulatory agencies?

8. What is the general climate of the project area? Identify annual rainfall and rainfall intensity curves.

9. Determine soil classification, permeability, erodibility, and depth to groundwater.

10. List contaminated or hazardous soils identified within the project area?

11. Determine the total disturbed soil area of the project.

12. Describe the topography of the project site.

13. List any areas outside of the Caltrans right-of-way that will be included in the project (e.g. contractor’s staging yard, work from barges, easements for staging, etc.).

14. Will additional right-of-way acquisition or easements and right-of-entry be required for design, construction and maintenance of BMPs. If so, how much?

15. Are there any slope stabilization concerns?

16. Describe the local land use within the project area and adjacent areas.

17. Is dry weather flow present?

18. What are the estimated unit costs for right-of-way should it be needed for Treatment BMPs, stabilized conveyance systems, lay-back slopes, or interception ditches?

19. Is there adequate funding (including supplemental funds) for storm water pollution control (SWPPP or WPCP) during construction?
Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water Impacts

Prepared by: Moffatt and Nichol Engineers  Date: 29 July 2003  District-Co-Route: 07-LA-Rte 1
Reviewed by: ___________________________  Date: ______________  KP (PM): 65.8  EA: 23930 K
RWQCB: Los Angeles

The PE must confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Attach pertinent information to the SWDR.

Options for avoiding or reducing potential impacts during project planning include the following:

1. Can the project be relocated or realigned (while upholding safe design standards) to avoid or reduce impacts to receiving waters?  
   - Yes  
   - No  
   - NA

2. Can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts?  
   - Yes  
   - No  
   - NA

3. Can the horizontal and vertical alignments be adjusted, without jeopardizing safe design standards, to minimize erosion from slopes by the following methods:
   a. Disturbing existing slopes only when necessary?  
      - Yes  
      - No  
      - NA
   b. Minimizing cut and fill areas to reduce slope lengths?  
      - Yes  
      - No  
      - NA
   c. Incorporating retaining walls to reduce steepness of slopes or to shorten slopes?  
      - Yes  
      - No  
      - NA
   d. Acquiring right-of-way easements (such as grading easements) to reduce steepness of slopes?  
      - Yes  
      - No  
      - NA
   e. Avoiding soils or formations that will be particularly difficult to re-stabilize?  
      - Yes  
      - No  
      - NA
   f. Providing cut and fill slopes flat enough to allow re-vegetation and limit erosion to pre-construction rates?  
      - Yes  
      - No  
      - NA
   g. Providing benches or terraces on long cut and fill slopes to reduce concentration of flows?  
      - Yes  
      - No  
      - NA
   h. Rounding and shaping slopes to reduce concentrated flow?  
      - Yes  
      - No  
      - NA
   i. Collecting concentrated flows in stabilized drains and channels?  
      - Yes  
      - No  
      - NA
   j. Retaining natural vegetation where feasible?  
      - Yes  
      - No  
      - NA

4. Can alternative materials or facilities be utilized to reduce future maintenance impacts on water quality (i.e., use of textured concrete in lieu of painted materials)?  
   - Yes  
   - No  
   - NA

5. Does design allow for ease of maintenance?  
   - Yes  
   - No  
   - NA

6. Can the project be scheduled or phased to minimize soil-disturbing work during the rainy season?  
   - Yes  
   - No  
   - NA

7. Can permanent storm water pollution controls such as slurry-paved slopes, vegetated slopes, basins, and conveyance systems be installed early in the construction process to provide additional protection and to possibly utilize them in addressing construction storm water impacts?  
   - Yes  
   - No  
   - NA
APPENDIX E

Design Pollution Prevention Decision Tree DPP-1

07-LA 1 KP 65.3-66.3 (PM 40.6-41.2)
TOPANGA LAGOON RESTORATION

Decision Tree DPP-1

BEGIN SELECTION OF DESIGN POLLUTION PREVENTION BMPs

IS PRESERVATION OF EXISTING VEGETATION MAXIMIZED?

YES

STABILIZE REMAINING DISTURBED AREAS:
  • PERMANENT SEEDING AND PLANTING

NO

ASSESS DOWNSTREAM EFFECTS AND CONSIDER:
  • ENERGY DISSIPATION DEVICES AT OUTLETS
  • MODIFICATIONS TO CHANNEL LINING MATERIALS
  • SMOOTH DRAINAGE CHANNEL TRANSITIONS
  • INCORPORATE DETENTION FACILITIES TO REDUCE PEAK DISCHARGE

WILL THE PROJECT INCREASE VELOCITY OR VOLUME OF DOWNSTREAM FLOW?

YES

MINIMIZE DISTURBANCE, STABILIZE SLOPE, AND CONTROL RUNOFF, CONSIDER:
  • SLOPE/SURFACE PROTECTION SYSTEMS
  • PRESERVE EXISTING VEGETATION
  • CONCENTRATED FLOW CONVEYANCE SYSTEMS

NO

WILL THE PROJECT CREATE NEW SLOPES OR MODIFY EXISTING SLOPES?

YES

MINIMIZE GULLYING AND SCOUR, CONSIDER:
  • CONCENTRATED FLOW CONVEYANCE SYSTEMS (DITCHES, BERM, DIKES, AND SWALES; OVERTIDE DRAINS)

NO

WILL RUNOFF CHANNELIZE?

YES

MINIMIZE SEDIMENT AND EROSION AT TRANSITIONS, CONSIDER:
  • CONCENTRATED FLOW CONVEYANCE SYSTEMS (FLARED CULVERT END SECTIONS; OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES)

NO

DO CROSS DRAINS EXISTS?

YES

COMPLETE COST ESTIMATE FOR SELECTED BMPs AND DOCUMENT DECISIONS

NO
Consideration of Design Pollution Prevention BMPs

This checklist is for use in conjunction with Decision Tree DPP-1

1. Consideration of Downstream Effects Related to Potentially Increased Flow
   (a) Will project increase velocity or volume of downstream flow?  
      ☐ Yes ☐ No ☐ NA
   (b) Will the project discharge to unlined channels?  
      ☐ Yes ☐ No ☐ NA
   (c) Will project increase potential sediment load of downstream flow?  
      ☐ Yes ☐ No ☐ NA
   (d) Will project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?  
      ☐ Yes ☐ No ☐ NA
      (If yes was answered to any of the above questions, consider downstream effects related to potentially increased flow and attach Part 2 of this BMP checklist)

2. Slope/Surface Protection Systems
   (a) Will project create new slopes or modify existing slopes?  
      ☐ Yes ☐ No ☐ NA
      (If yes was answered to the above question; consider Slope/Surface Protection Systems, complete and attach Part 3 of this BMP checklist)

3. Concentrated Flow Conveyance Systems
   (a) Will runoff from project channelize and potentially cause gullying and scour?  
      ☐ Yes ☐ No ☐ NA
   (b) Will project create new slopes or modify existing slopes?  
      ☐ Yes ☐ No ☐ NA
   (c) Are roadways or facilities on site subject to flood drainage?  
      ☐ Yes ☐ No ☐ NA
   (d) Will it be necessary to direct or intercept surface runoff?  
      ☐ Yes ☐ No ☐ NA
   (e) Do cross drains exist?  
      ☐ Yes ☐ No ☐ NA
      (If yes was answered to any of the above questions, consider Concentrated Flow Conveyance Systems; complete and attach Part 4 of this BMP checklist)

4. Preservation of Existing Vegetation
   (a) Will project maximize protection of desirable existing vegetation to provide erosion and sediment control benefits?  
      ☐ Yes ☐ No ☐ NA
      (If yes, vegetation at areas on site where no construction activity is planned or will occur at a later date will be identified and preserved and remaining disturbed areas must be stabilized; consider Preservation of Existing Vegetation, complete and attach the Part 5 of this checklist)
      (If no, document justification or consider Preservation of Existing Vegetation, complete and attach Part 5 of this checklist)

5. Cost Estimate for selected BMPs.  
   ☐ Completed
Design Pollution Prevention BMPs
Checklist DPP-1, Part 2

Prepared by: Moffat and Nichol Engineers Date: 29 July 2003 District-Co-Route: 07-LA-Rte 1
Reviewed by: Date: KP (PM): 65.8 EA: 23930 K
RWQCB: Los Angeles OUTFALL:

Downstream Effects Related to Potentially Increased Flow

1. Review total paved area and reduce to the Maximum Extent Possible (MEP).
   Completed

2. Review channel lining materials and design for stream bank erosion control.
   Completed
   (a) See Chapters 860 and 870 of the HDM.
   Completed
   (b) Consider natural and man-made alternatives for channel lining materials.
   Completed
   (c) Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.
   Completed

3. Include, where appropriate, energy dissipation devices at culvert outlets.
   Completed

4. Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.
   Completed

5. Include, if appropriate, detention facilities to reduce peak discharges.
   Completed
Design Pollution Prevention BMPs
Checklist DPP-1, Part 3

Prepared by: Moffat and Nichol Engineers  Date: 29 July 2003  District-Co-Route: 07-LA-Rte 1
Reviewed by: ______________________  Date: ______________________  KP (PM): 65.8  EA: 23930 K
RWQCB: ______________________  Los Angeles  OUTFALL: ______________________

Slope / Surface Protection Systems

DESIGN

1. What are the proposed areas of cut and fill? (attach plan or map)  [Completed]

2. Is erosion minimized from completed, disturbed surfaces?  [Yes]  [No]  [NA]

3. Is redesign possible?  [Yes]  [No]  [NA]

4. Are existing slopes disturbed?  [Yes]  [No]  [NA]

5. Are new slopes created?  [Yes]  [No]  [NA]

6. Are slopes > 1:4 vertical:horizontal (v:h)
   (If yes, an erosion control plan must be prepared or approved by the District Landscape Architect, and verified by District/Regional NPDES Storm Water Coordinator. Coordinate with District Geotechnical Liaison.)
   [Yes]  [No]  [NA]

7. Are slopes > 1:2 (v:h)
   (If yes, a Geotechnical Design Report must be prepared by Geotechnical Services. Additionally, the District Landscape Architect should prepare or approve an erosion control plan that must also be verified by the District Maintenance Storm Water Coordinator and District/Regional NPDES Coordinator.)  [Yes]  [No]  [NA]

8. Review and incorporate Working Details and appropriate SSPs listed below for Vegetated Surface and Hard Surface Protection Systems.  [Complete]

9. Estimate the total area in hectares (before construction/after construction) of vegetated surface BMPs and hard surface BMPs to be used on the project (excluding existing vegetation or preserved areas).  [Complete]

VEGETATED SURFACES

1. Identify existing vegetation.  [Complete]

2. Evaluate site to determine appropriate vegetation and planting strategy.  [Complete]

3. What are the soil types within the planting area?  [Complete]

4. What are the vegetation types within the project limits? How long will it take for vegetation to re-establish?  [Complete]

5. Minimize overland and concentrated flow depths and velocities.  [Complete]

6. Maximize contact time between water and vegetated surfaces.  [Complete]