

Project Study Report

To

Request Programming in the 2016 SHOPP

On Route 1 in Monterey County near Lucia

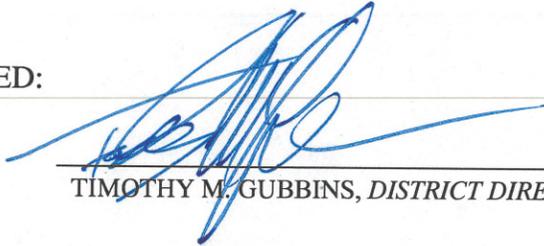
At 0.6 Mile South of Limekiln Creek Bridge

APPROVAL RECOMMENDED:



KEN DOSTALEK,
PROJECT MANAGER

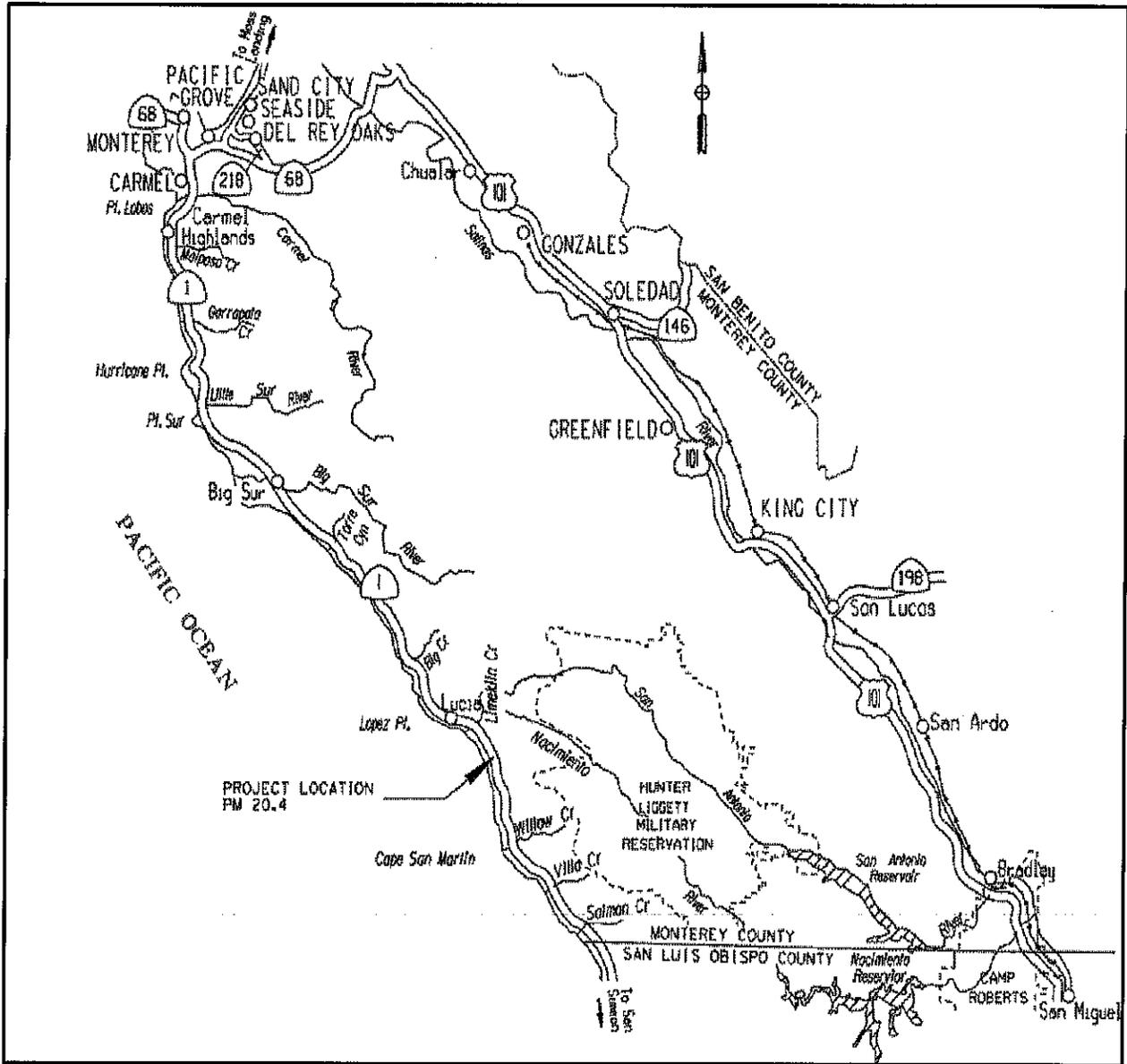
APPROVED:



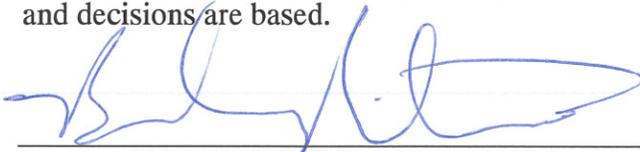
TIMOTHY M. GUBBINS, DISTRICT DIRECTOR

10/7/14
DATE

Vicinity Map



This project study report 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.



REGISTERED CIVIL ENGINEER

7/30/14
DATE



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1. INTRODUCTION

The proposed project on State Route 1 (SR1) in Monterey County is to replace an existing, structurally deficient 48" corrugated steel pipe (CSP) culvert crossing beneath the highway at Post Mile 20.37. The District Hydraulics department performed a hydrologic and hydraulic analysis on the culvert system using currently approved methods to determine the adequate culvert size to convey 100-year storm flows under the highway. See the Cost Estimate (Attachment B) for specific work items included in this project.

Project Limits	05-Mon-1-PM 20.4
Number of Alternatives	2
Alternative Recommended for Programming	Build Alternative
Current Capital Outlay Support Estimate	\$2,340,000
Current Capital Outlay Construction Estimate	\$1,139,300
Current Capital Outlay Right-of-Way Estimate	\$17,375
Funding Source	SHOPP 201.151 (Drainage System Restoration)
Funding Year	2019/20
Type of Facility	Conventional
Number of Structures	None
SHOPP Project Output	One culvert replaced
Anticipated Environmental Determination or Document	Mitigated Negative Declaration – California Environmental Quality Act (CEQA) Categorically Excluded – National Environmental Policy Act (NEPA)
Legal Description	In Monterey County Near Lucia at 0.6 Mile South of Limekiln Creek Bridge
Project Development Category	4B

2. BACKGROUND

Within the limits of the proposed project State Route 1 is a rural, scenic, undivided two-lane conventional highway. Within the corridor the majority of traffic consists of recreational travel and the locals that support and serve the tourists that visit the beautiful Big Sur coastline. The winding and climbing highway features 11 to 12-foot wide lanes and, typically, 0 to 4-foot wide shoulders with occasional turnouts for passing and/or vista point purposes. Within the proposed project limits the highway has a turnout on the inland side with varying width of 0 to 25-feet. No state highway or significant local roads intersect SR1 from the Monterey/San Luis Obispo County Line (PM 0.00) to Carmel River Bridge (PM 72.28) so the highway is a lifeline for

permanent residents and businesses along the corridor.

The 130-foot long 48-inch diameter CSP culvert to be replaced was installed in 1933 as part of the original roadway construction of the highway in this area. Erosion at the outlet below the adjacent rubble masonry retaining wall along with corrosion and structural deformations were found in the culvert in 2003. The existing culvert was lined using a cured-in-place pipe (CIPP) liner and a 170-foot long high-density polyethylene (HDPE) fuse welded down drain was installed in 2008 to extend the service life and prevent catastrophic failure until the culvert could be replaced. In addition, approximately 10 feet of the 48-inch CSP was replaced at the outlet end because of joint separation failure where the joint was offset allowing fill material to be exposed to flows within the culvert that could lead to potential erosion of the embankment and beneath the roadway.

The existing 130-foot long 48-inch CSP culvert to be replaced has approximately 15 to 20-feet of fill material over the pipe and a slope of approximately 11%. The inlet is about 30 feet from the existing edge of traveled way (ETW) with a historic rubble masonry headwall feature. The outlet is located about 45 feet down a 1:1 slope from the ETW with an approximately 45 degree 48-inch CSP elbow connecting to a HDPE concentric 48-inch to 24-inch reducer to a 170-foot long 24-inch HDPE down drain with an outlet near ocean level. Near the 48-inch CSP elbow there is a foundation of an existing masonry rubble retaining wall that supports the roadway.

3. PURPOSE AND NEED

Purpose:

The purpose of this project is to replace the deficient 130-foot 48-inch CSP at PM 20.37 on SR1 that has met its service life. Without replacement and with continued deterioration, drainage and roadway failure are possible.

Need:

The deficiency of the 48-inch CSP at PM 20.37 is well documented in the Drainage System Report (See Attachment H) within the District 5 Culvert Inspection Program. The service life of the culvert has been met. Without replacement roadway failure could occur. Considering the additional impacts (economic, environmental, local, time delays) of a possible collapse and the following mandatory highway closure to complete repairs, it is recommended that the culvert be replaced. If the highway has to be closed for an extended period of time for major repairs, local residents would be inconvenienced and local businesses would be damaged by loss of revenue from tourist traffic.

4. DEFICIENCIES

According to Drainage System Reports developed in the District 5 Culvert Inspection Program, the 48-inch CSP culvert experienced corrosion, a joint shift, and deformation. Additionally, erosion occurred at the outlet below an existing masonry rubble retaining wall. In 2008 Expenditure Authorization (EA) 05-0N5204 addressed the erosion issue by placing a 48-inch CSP elbow and a HDPE down drain routing drainage to the base of the slope. As a short term repair, the existing culvert was lined with a CIPP liner to extend the service life and prevent potential slope and roadway failure until the culvert could be replaced.

5. CORRIDOR AND SYSTEM COORDINATION

For the section that includes the proposed project, the federal functional classification of SR1 is Minor Arterial. SR1 is one of 87 statutorily identified routes on the State's Interregional Road System (IRRS). It is a designated State Scenic Highway and has been identified as an All American Road, the highest designation under the federal Scenic Byways Program. From PM 0.0 (the San Luis Obispo/Monterey County line) to PM 72.6 (Rio Road near Carmel), SR1 is a part of the Truck Network. It is a designated California Legal Advisory Route where travel is not advised if the Kingpin-to-Rear-Axle distance (KPRA) is greater than 30 feet.

The Transportation Concept Report (TCR) is the long-term planning document developed by Caltrans District 5 for SR1. The TCR evaluates current and projected conditions along the route, establishes a twenty-year planning vision or concept, and recommends long- and short-term improvements to achieve the concept. For the segment (PM 0.00 to 67.90) that includes the proposed project, the most recent TCR, dated April 2006, proposes the improvements listed below where feasible:

- Peak Level of Service (LOS) D or better
- Widen travel lanes and shoulders to a uniform 12 feet and 4 feet, respectively
- Consolidate driveways and minimize access points
- Locate turn-outs and pull-outs to facilitate operations and enhance travelers' experience of the corridor
- Provide intelligent transportation systems (ITS) elements such as changeable message signs (CMS) and highway advisory radio (HAR) to alert motorists of weather and road conditions along the highway
- Support development of the California Coastal Trail (CCT), which is planned to be a continuous recreational trail extending from the Mexican border to the Oregon state line
- Encourage vanpools and transit extensions for Big Sur commuters

Although the scope does not allow for any of the listed improvements to be constructed as part of this project, the project as proposed would not be inconsistent with the route concept envisioned in the TCR.

The Big Sur Coast Highway Management Plan (CHMP), dated March 2004, was prepared by Caltrans with guidance from a Steering Committee and other stakeholders. The CHMP created a management framework for the continued safe and efficient operation of SR1 in a manner that preserves, protects, and restores the scenic, natural, and cultural character and qualities of the highway corridor. Specifically, the CHMP contains guidelines for landslide management and storm damage response, for corridor aesthetics, and for vegetation management. The prevention strategies section of the CHMP discusses maintaining the corridor culvert inventory and developing projects to address deficiencies identified in the inventory. This project is consistent with that goal and with the CHMP as a whole.

6. ALTERNATIVES

A. Viable Alternative

• Proposed Engineering Improvements

The viable alternative proposes to excavate to place a 100-foot long 60-inch solid wall high density polyethylene (HDPE) pipe, or other suitable pipe to be determined during the design phase, along a new alignment. A solid wall HDPE culvert will provide better resistance to abrasion caused by hard gravel and rock bed loading combined with the potential for high flow velocities within the pipe. The outlet of the new culvert will be approximately 80 feet north of the existing 48-inch CSP to avoid the two existing historic masonry retaining walls that support the roadway. Also, the new culvert will be approximately 5.5-feet shallower than the existing culvert to allow for quicker construction with less impact to the existing masonry headwall, roadway, and the traffic flows. A drainage inlet will be constructed on the west side of the road between the edge of pavement (EP) and hinge point (HP) and a concrete gutter will be placed to catch surface water running off the road to prevent erosion. A 250-foot long 36-inch HDPE fuse welded downdrain will be attached to the new HDPE culvert via an elbow and a reducer. The downdrain will carry flow to the bottom of the slope just above the ocean. To account for Sea Level Rise the end of the downdrain will be selected with an assumed sea level rise of 60 inches (high estimate for the year 2100). Also, the outlet of the downdrain location will be adjusted to account for wave action.

It is expected at this time that the existing culvert system will be used to convey any existing flows during construction of the new culvert. Upon completion, the existing 48-inch CSP culvert will be abandoned with slurry cement and plugged with concrete. The historic inlet masonry headwall will be modified to connect

the new 60-inch HDPE; care will be taken to preserve as much of the headwall as possible. Where modifications are made to the historic headwall, rubble will be reused to match the appearance of the existing as close as practicable. The invert just upstream of the masonry headwall will be filled with concrete or slurry 5.5-feet in order to direct flow to the new 60-inch HDPE. During this work it is anticipated that flows will need to be diverted to an adjacent drainage system until the new invert is set. The existing 24-inch HDPE fuse welded down drain, the 48-inch CSP elbow, and the 48-inch to 24-inch HDPE reducer will be removed. The existing debris rack at the inlet will be reused if compatible with the new culvert or a new debris rack will be constructed for the new 60-inch culvert. The debris rack will prevent large objects from clogging the culvert and down drain, blocking flows which could wash out the roadway.

The trenched area across the roadway will be backfilled with slurry cement and the roadway will be patched with hot mix asphalt (HMA). The metal beam guardrail along the southbound (SB) shoulder north and south of the existing masonry rubble barrier will be replaced with the new standard Midwest Guardrail System (MGS) with wood posts. The new guardrail should be treated to darken the metal to give an aged, rustic appearance. A concrete anchor block, or other suitable safety end treatment to be decided in the design phase, will be constructed on each end of the existing masonry barrier along the SB outside shoulder to connect to the new MGS. If concrete anchor blocks are selected as the guardrail safety end treatments the concrete will be treated architecturally to minimize visual impacts and funds are included in the estimate for this work.

- **Nonstandard Mandatory and Advisory Design Features**

Michael Janzen, Headquarters Design Reviewer, has been consulted regarding the existing nonstandard features within the project limits. As this project does not modify the roadbed, it is not required to correct or document such features. Therefore, no design exceptions will be needed for this project.

- **Right of Way and Utilities**

No additional right of way or easements will be required to construct the project because the original highway deed included a clause to allow the State to build and maintain ditches and culverts beyond the limits of the State's land. The adjacent property is owned by the United States Forest Service and is part of the Los Padres National Forest. As a result, it is anticipated that a right of entry permit may be required. The clause on page 3 of the 1938 highway deed reads:

“The State of California is hereby granted the right to extend slopes of cuts and fills, where and when necessary, to permit the construction and maintenance of a standard 40 foot roadbed, and to build and maintain ditches and culverts beyond the limits of the above described 80 foot strip.”

There are no visible utilities within the project limits and an asbuilt and permit search did not identify any utilities within the project limits. The Right of Way Utility Department also stated that there are no utilities within the project limits. If it is later determined otherwise, during the next phase, that a utility is within the project limits and relocation is required, there will be a risk of delays to the schedule and additional costs that were not initially accounted for.

- **Traffic Analysis**

Current and Forecast Traffic

PM	AADT			DHV (2039)	D	T
	2012	2019	2039			
20.37	2,300	2,640	3,611	631	59%	0.6%

Collision Analysis

The collision rates per million vehicle miles (Coll/MVM) for the three-year period from January 1, 2009 to December 31, 2011 for the project location and the statewide average for similar roadway facilities are as follows:

Location	No. of Collisions			Actual Rates (Coll/MVM)			Average Rates (Coll/MVM)		
	Fatal	Injury	Total	Fatal	F+I	Total	Fatal	F+I	Total
PM 20.3/20.5	0	0	0	0.00	0.00	0.00	0.018	0.41	0.81

The collision rates for the project location are below the statewide averages for similar roadway facilities. The culvert replacement project is expected to have no impact on future collision rates because there is no anticipated modification to the roadway.

- **Transportation Management Plan for Use During Construction**

All projects are required to include a Transportation Management Plan (Attachment J) to address potential impacts to traffic flow and provide strategies to minimize delays during construction. This project will be designed to provide at least one lane open at all times during construction and significant traffic impacts are not anticipated. When a lane closure is necessary, traffic control will be handled with a typical lane closure with reversible control, including the use of flaggers. The possibility of setting up a temporary signal system for 24-hour a day one-way traffic control was discussed but considered not practicable due to the short project duration of approximately 40 work days. Additionally, the cost for setting up a temporary signal system, estimated to be about \$100,000, is significantly higher than utilizing flaggers for one way traffic control.

Using traffic control, the new culvert will be installed on one side of the roadway, then the other. Metal plates may be used to cover any open trenches when they are not being worked on. Alternatively, one-way traffic control could be used for an extended closure, up to 24 hours, to allow for excavation, placing the culvert, slurry cement backfill and cure time, and repaving.

The Transportation Management Plan (TMP) for this project includes a public awareness campaign, a portable changeable message sign (CMS) in each direction, and advanced notification of planned lane closures via the Department's Highway Conditions website. Four special days will be included in the special provisions along with restrictions on lane closures on and around those days. The TMP requires coordination with any adjacent construction projects. More detailed TMP strategies will be developed during the design phase.

- **Storm Water**

Per the Storm Water Data Report (SWDR) (see Attachment E for the signed cover sheet), this project is exempt from further consideration of Treatment Best Management Practices (BMPs). The project does not involve a new facility or major reconstruction and does not propose to add any impervious area within the project limits. Because the disturbed soil area for this project is less than 1 acre a Water Pollution Control Plan (WPCP) is required for this project and no Risk Level Determination will be required. Temporary Construction Site BMPs will concentrate on sediment controls, soil stabilization, and non-storm water management. The indirect receiving body is the Pacific Ocean, approximately 200 feet down slope at a 1:1 grade. There are no water bodies within the project limits that are listed for 303(d) or Total Maximum Daily Loads (TMDLs).

- **Site Restoration**

The existing culvert goes under the highway where an existing stone parapet wall exists with a large stone headwall and a 15-foot deep stone well. An additional feature of this historic structure is a nonoperational drinking fountain. Care will be taken during construction of the new culvert and the abandoning of the existing culvert to preserve this historic stone parapet wall feature by using shoring during construction and rebuilding the existing stone well wall with existing stone pieces to match the original appearance after culvert construction is complete. All work to historic features will be done to meet the Secretary of the Interior's Standards for Rehabilitation. Historic features may require delineation as Environmentally Sensitive Areas (ESA) with either Temporary Fence (Type ESA) or Temporary Railing (Type K) during certain phases of construction, to be determined.

Existing upland coastal scrub and wetland vegetation to remain will be delineated as an ESA and protected with Temporary Fence – (Type ESA). The

existing vegetation is mostly upland coastal scrub species with scattered hydrophytic plants around the low flow channel of the perennial creek/seep and along the northbound shoulder drainage swale at the toe of the cut slope. Invasive weeds, such as Pampas Grass (*Cortaderia selloana*) and Fennel (*Foeniculum vulgare*), are also present on both sides of the highway and shall be eradicated as part of this project. Although vegetation removal for construction will not be a major factor, care will be taken during the construction of the clear water diversion to reduce the hydrophytic vegetation removal.

No Seacliff buckwheat (*Eriogonum parvifolium*) plants were observed by Landscape Architecture site visit 4/14/14, but they are suspected of being present within the project limits. Wetland mitigation measures from US Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) will be necessary as well as the consideration of replacing any buckwheat plants at a 2:1 ratio with a 1-year plant establishment, in consultation with US Fish and Wildlife Service (USFWS). Permanent erosion control measures including native species, notably the Seacliff buckwheat, will be applied to all disturbed areas, along with fiber rolls and compost socks and berms.

New MGS along the southbound shoulder north and south of the existing masonry rubble barrier will be darkened to give it an aged, rustic appearance. Darkening measures will be applied to horizontal beams, posts and all other metal components.

- **SHOPP Project Output**

The SHOPP project output is one culvert replaced.

B. Rejected Alternatives

The “No-Build” alternative proposes to leave the existing culvert in place, as is, with no modifications. This alternative is unacceptable due to concerns the pipe may collapse resulting in possible roadway failure.

Replacing the existing culvert by jacking a new pipe in place was discussed with Geotechnical Design – North staff in District 5 but considered not feasible due to steep slopes on both sides of the roadway and the potential for very difficult jacking due to pipe size and expected rocky conditions. For jacking operations a large, relatively flat jacking pit is needed to accommodate the pipe and equipment and another pit is needed on the receiving end. The slope on the outlet side of the existing culvert is 1:1 or steeper which would require large shoring operations to construct a jacking pit. Also, when jacking culverts the jacking equipment needs to push against an object to counteract the jacking force, likely requiring the removal of the entire historic inlet masonry headwall. Trenching for the new culvert will cause fewer impacts to the historic features and the existing slopes and will cost less to construct.

Erosion around the base of the lower masonry rubble retaining wall was investigated by Geotechnical Design – North in 2011 and in April 2014 and was determined to be not significant enough to jeopardize the structural integrity of the wall. Geotechnical Design reported no evidence of stress fractures occurring along the length of the wall, therefore no work will be planned to address the erosion as it appears to be stable and not significant.

7. COMMUNITY INVOLVEMENT

It is recommended that an opportunity for a public hearing be offered if significant public interest arises.

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

An Initial Study with a Mitigated Negative Declaration (MND) - CEQA and a Categorical Exclusion (CE) - NEPA determinations are anticipated for this project. Caltrans would be the CEQA and NEPA lead agency. A summary of the work that would be done in the environmental phase may be found in the Preliminary Environmental Analysis Report (PEAR) (Attachment G).

9. FUNDING/PROGRAMMING

It has been determined that this project is eligible for federal-aid funding.

The proposed project is a candidate for programming in the 2016 State Highway Operation and Protection Program (SHOPP) and will be funded from the Drainage System Restoration Program (201.151) for delivery in the 2019/20 fiscal year. The current (non-escalated) total project capital outlay cost estimate including R/W is \$1,156,675 (June 2014).

The estimated capital and support costs for this project are summarized in the table on the following page:

Capital Outlay Support and Project Estimates

Fund Source	Fiscal Year Estimate					
	2016/17	2017/18	2018/19	2019/20	Subtotal	Total
20.XX.201.151						
Component	In thousands of dollars (\$1,000)					
PA&ED Support	826				826	
PS&E Support			978		978	
Right-of-Way Support			49		49	
Construction Support				487	487	
Total Support						2,340
Right-of-Way			23		23	
Construction				1,527	1,527	
Total Capital						1550
Total Project Cost	826	0	1,050	2,014		3,890

Support categories are the same as those identified by SB 45. Support Costs are escalated at 3.1% per year. Construction and R/W Capital Costs escalated at 5% per year. **Support Cost Ratio: 151%** (All support costs divided by the sum of the escalated Construction Capital and escalated R/W Capital).

The high support cost ratio of 151% (see note above) is due to an anticipated labor intensive project delivery. The project site is a remote location, approximately 80 miles and nearly two hours by car from Caltrans District 5 Headquarters, San Luis Obispo. The location is environmentally and historically sensitive. The project will require careful study and analysis to minimize impacts.

10. SCHEDULE

Project Milestones		Scheduled Delivery Date (Month/Day/Year)
PROGRAM PROJECT	M015	07/01/16
BEGIN ENVIRONMENTAL	M020	10/01/16
CIRCULATE DPR & DED EXTERNALLY	M120	02/01/18
PA & ED	M200	07/01/18
PS&E TO DISTRICT OFFICE ENGINEER	M377	10/28/19
RIGHT OF WAY CERTIFICATION	M410	10/28/19
READY TO LIST	M460	02/03/20
AWARD	M495	05/04/20
APPROVE CONTRACT	M500	06/01/20
CONTRACT ACCEPTANCE	M600	09/01/21
END PROJECT	M800	11/01/21

11. RISKS

A Risk Register (Attachment F) has been prepared by the Project Development Team (PDT) to assess, monitor, and respond to identified risks that may occur throughout the life of the project. The Risk Register is a tool to help the PDT minimize surprises that could impede the successful delivery of the project through effective communication of risks throughout the project delivery process. However, the Risk Register cannot identify all risks in advance of the occurrence for a project, as some risks are unknown. Significant risks specific to this project include: the possibility of Environmental permit delays, denials, or the need for a higher level environmental document such as an Environmental Impact Report (EIR); the possibility of utility conflicts that require relocation; and the possibility that an off-site planting mitigation area would be required.

The current cost estimate and schedule do not include quantitative impacts for the risks identified in the Risk Register.

12. FHWA COORDINATION

This project is considered to be an Assigned Project in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

13. PROJECT REVIEWS

Field review	Various Project Development Team Members	Date	Various
Headquarters Design Coordinator	Mike Janzen	Date	7/18/14
Traffic Operations Review	Mark Ballentine	Date	7/25/14
Constructability Review	Wayne Walker	Date	7/24/14

14. PROJECT PERSONNEL

Ken Dostalek	Project Manager	(805) 549-3133
Ron Kraemer	Design Engineer	(805) 549-3040
Berkeley Lindt	Project Engineer	(805) 549-3071
Matt Fowler	Environmental Manager	(805) 542-4603
Michael Thomas	Environmental Planner	(805) 549-3023
Marshall Garcia	R/W Project Delivery Coordinator	(805) 549-3471
Chris Shaeffer	R/W Utilities	(805) 549-3565
Ben Erchul	Hydraulics	(805) 549-3391
Katherine Brown	Landscape Architect	(805) 549-3195
Kathleen Jenkins	Storm Water	(805) 549-3402
Dan Miller	Construction Senior	(805) 549-3481
Charlie Hench	Construction Resident Engineer	(805) 927-4559

15. ATTACHMENTS

- A. Title Sheet
- B. Project Study Report Cost Estimate
- C. Preliminary Project Layout and Profile
- D. Right of Way Data Sheet
- E. Storm Water Data Report Cover Sheet
- F. Risk Register
- G. Preliminary Environmental Analysis Report
- H. Drainage System Report, Mon-1-20.37
- I. Final Document Distribution List
- J. Transportation Management Plan

INDEX OF PLANS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY

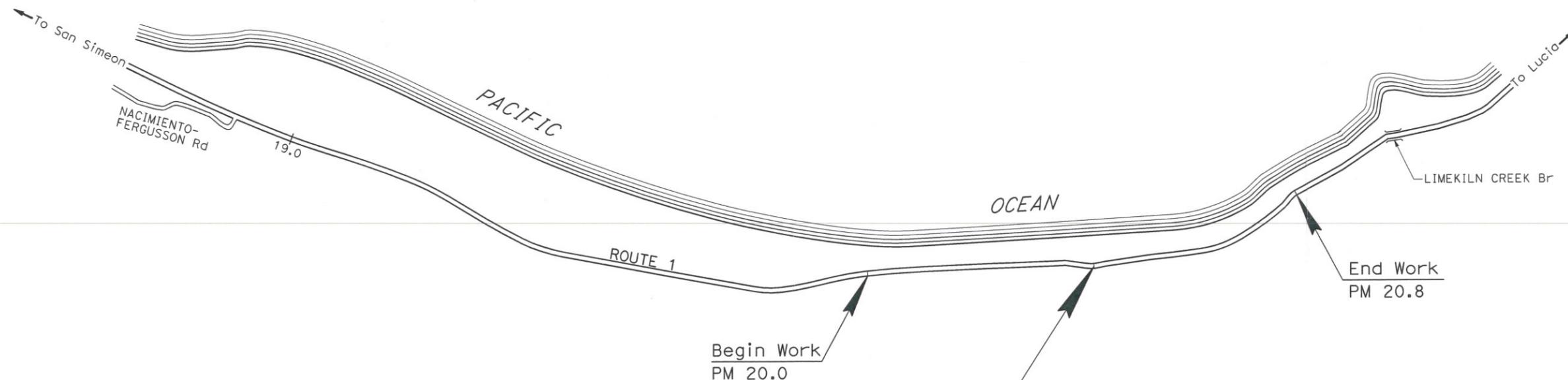
IN MONTEREY COUNTY NEAR LUCIA AT
 0.6 MILE SOUTH OF LIMEKILN CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	MON	1	20.4		

LOCATION MAP

Attachment A



**LOCATION OF CONSTRUCTION
 PM 20.4**

PROJECT MANAGER
 KEN DOSTALEK

DESIGN ENGINEER
 RON R. KRAEMER

PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER



PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	05-0Q5004
PROJECT ID	0500020288

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 USERNAME => s136508 DGN FILE => 0500020288ab001.dgn

DATE PLOTTED => 13-AUG-2014
 TIME PLOTTED => 11:01
 LAST REVISION 08-12-14

PROJECT STUDY REPORT COST ESTIMATE



Dist-Co-Rte-PM: 05-Mon-1-20.4
 EA: 05-0Q500K
 Project ID: 0500020288K
 Program Code: 20.xx.201.151

PROJECT DESCRIPTION:

Limits: On Route 1 in Monterey County near Lucia at 0.6 Mile South of Limekiln Creek Bridge

Proposed Improvement: Replace existing 48" corrugated steel pipe with a 60" solid wall HDPE and a 36" downdrain to near ocean level. Abandon existing culvert and remove existing 24" downdrain.
(Scope of Work)

Alternative: Recommended Build Alternative

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$	1,139,300
TOTAL STRUCTURES ITEMS	\$	0
SUBTOTAL CONSTRUCTION COSTS		\$ 1,139,300
TOTAL RIGHT OF WAY ITEMS (Not Escalated)		\$ 17,375
TOTAL PROJECT CAPITAL OUTLAY COSTS		\$ 1,156,675

Number of Working Days: 40

Number of Plant Establishment Days: 250

Reviewed by
District Program Manager:


Kelly McClain

7/30/14
Date

(805) 549-3278
Phone

Approved by Project Manager:


Ken Dostalek

7/31/14
Date

(805) 549-3133
Phone

I. ROADWAY ITEMS

<u>Section</u>		<u>Cost</u>
1	Earthwork	\$ 164,500
2	Structural Section	\$ 15,400
3	Drainage	\$ 385,900
4	Specialty Items	\$ 43,200
5	Environmental	\$ 48,400
	5A Environmental Stewardship	\$ 500
	5B Landscape and Irrigation	\$ 34,000
	5C NPDES	\$ 13,900
6	Traffic Items	\$ 79,600
	6A Electrical	\$ -
	6B Signing and Striping	\$ 1,400
	6C Traffic Management Plan	\$ 10,000
	6D Traffic Control	\$ 68,200
7	Detours	\$ -
8	Minor Items	\$ 73,700
9	Roadway Mobilization	\$ -
10	Supplemental Work	\$ 88,200
11	State Furnished	\$ 12,500
12	Contingencies	\$ 227,900
13	Overhead	\$ -

TOTAL ROADWAY ITEMS \$ 1,139,300

Estimate Prepared By:



Berkeley Lindt

Date

Phone

805-549-3071

Estimate Reviewed By:



Ron Kraemer

Date

Phone

805-549-3040

Section 1 - Earthwork

Item Code	Unit	Quantity	Unit Price (\$)	Cost
190101	Roadway Excavation	CY	x	= \$ -
190103	Roadway Excavation (Type Y) ADL	CY	x	= \$ -
190105	Roadway Excavation (Type Z-2) ADL	CY	x	= \$ -
190109	Roadway Excavation (NOA)	CY	290 x 200.00	= \$ 58,000
198001	Imported Borrow	CY	x	= \$ -
198007	Imported Material (Shoulder Backing)	TON	x	= \$ -
192037	Structure Excavation (Retaining Wall)	CY	x	= \$ -
193013	Structure Backfill (Retaining Wall)	CY	x	= \$ -
193031	Pervious Backfill Material (Retaining Wall)	CY	x	= \$ -
160102	Clearing & Grubbing	LS	1 x 1,500.00	= \$ 1,500
170101	Develop Water Supply	LS	x	= \$ -
192001	Structure Excavation	CY	x	= \$ -
193006	Structure Backfill (Slurry Cement)	CY	360 x 285.00	= \$ 102,600
192502	Sand Bedding	CY	15 x 160.00	= \$ 2,400

TOTAL EARTHWORK SECTION ITEMS \$ 164,500

Section 2 - Structural Section

Item Code	Unit	Quantity	Unit Price (\$)	Cost
401050	Jointed Plain Concrete Pavement	CY	x	= \$ -
400050	Continuously Reinforced Concrete Pavement	CY	x	= \$ -
404092	Seal Pavement Joint	LF	x	= \$ -
404094	Seal Longitudinal Isolation Joint	LF	x	= \$ -
413115	Seal Joint (Existing Concrete Pavement)	LF	x	= \$ -
401108	Replace Concrete Pavement (Rapid Strength Concrete)	CY	x	= \$ -
406050	Dowel Bar (Drill and Bond)	EA	x	= \$ -
390132	Hot Mix Asphalt (Type A)	TON	16 x 350.00	= \$ 5,600
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	x	= \$ -
393003	Geosynthetic Pavement Interlayer	SQYD	x	= \$ -
280201	Class 2 Aggregate Base	CY	x	= \$ -
290201	Asphalt Treated Permeable Base	CY	x	= \$ -
250401	Class 4 Aggregate Subbase	CY	x	= \$ -
374002	Asphaltic Emulsion (Fog Seal Coat)	TON	x	= \$ -
397005	Tack Coat	TON	x	= \$ -
377501	Slurry Seal	TON	x	= \$ -
3750XX	Screenings (Type XX)	TON	x	= \$ -
374492	Asphaltic-Emulsion (Polymer Modified)	TON	x	= \$ -
365001	Sand Cover	TON	x	= \$ -
731507	Minor Concrete (Gutter Depression)	CY	x	= \$ -
731502	Minor Concrete (Misc. Construction)	CY	7 x 1,400.00	= \$ 9,800
394071	Place Hot Mix Asphalt Dike	LF	x	= \$ -
150771	Remove Asphalt Concrete Dike	LF	x	= \$ -
420201	Grind Existing Concrete Pavement	SQYD	x	= \$ -
150860	Remove Base and Surfacing	CY	x	= \$ -
390095	Replace Asphalt Concrete Surfacing	CY	x	= \$ -
1532XX	Remove Concrete (type)	CY	x	= \$ -
394090	Place Hot Mix Asphalt (Misc. Area)	SQYD	x	= \$ -
153103	Cold Plane Asphalt Concrete Pavement	SQYD	x	= \$ -
39405X	Shoulder Rumber Strip (HMA, Type XX Indentation)	STA	x	= \$ -
413112A	Repair Spalled Joints (Polyester Grout)	SQYD	x	= \$ -
420102	Groove Existing Concrete Pavement	SQYD	x	= \$ -
390136	Minor Hot Mix Asphalt	TON	x	= \$ -

TOTAL STRUCTURAL SECTION ITEMS \$ 15,400

Section 3 - Drainage

Item Code		Unit	Quantity		Unit Price (\$)		Cost
150805	Remove Culvert	LF		x		= \$	-
152602	Modify Headwall	LS	1	x	60,000.00	= \$	60,000
193114	Sand Backfill	CY		x		= \$	-
150204	Abandon Culvert	LF	130	x	45.00	= \$	5,850
150777	Remove Drainage Facility	LS	1	x	10,000.00	= \$	10,000
150814	Remove Downdrain	EA		x		= \$	-
510502	Minor Concrete (Minor Structure)	CY	12	x	2,500.00	= \$	30,000
nonstd	48" High Density Polyethylene Pipe	LF		x		= \$	-
650026	36" Reinforced Concrete Pipe	LF		x		= \$	-
650034	48" Reinforced Concrete Pipe	LF		x		= \$	-
nonstd	63" High Density Polyethylene Pipe (Solid Wall)	LF	112	x	1,450.00	= \$	162,400
690110	12" CSP Downdrain	LF		x		= \$	-
nonstd	36" Fuse Welded HDPE Downdrain	LF	250	x	365.00	= \$	91,250
nonstd	Earth Anchorage System	EA	3	x	8,000.00	= \$	24,000
nonstd	Junction Structure	EA		x		= \$	-
721017	Rock Slope Protection (Facing, Method B)	CY		x		= \$	-
720106	Rock Slope Protection (1/4 Ton, Method A)	CY		x		= \$	-
721008	Rock Slope Protection (Light, Method B)	CY		x		= \$	-
721007	Rock Slope Protection (1/4 Ton, Method B)	CY		x		= \$	-
729010	Rock Slope Protection Fabric	SQYD		x		= \$	-
023463	Temporary Creek Diversion System	L		x		= \$	-
721430	Concrete (Channel Lining)	CY		x		= \$	-
750001	Miscellaneous Iron and Steel	LB	526	x	4.50	= \$	2,367
655424	Jacked 36" Reinforced Concrete Pipe	LF		x		= \$	-
655432	Jacked 48" Reinforced Concrete Pipe	LF		x		= \$	-

TOTAL DRAINAGE ITEMS \$ 385,900

Section 4 - Specialty Items

Item Code		Unit	Quantity		Unit Price (\$)		Cost
070012	Progress Schedule (Critical Path Method)	LS		x		= \$	-
518002	Sound Wall (Masonry Block)	SQFT		x		= \$	-
510524	Minor Concrete (Sound Wall)	CY		x		= \$	-
153250	Remove Sound Wall	SQFT		x		= \$	-
190110	Lead Compliance Plan	LS		x		= \$	-
150662	Remove Metal Beam Guard Railing	LF	165	x	25.00	= \$	4,125
151536	Reconstruct Fence (Type BW)	LF		x		= \$	-
151537	Reconstruct Fence (Type WM)	LF		x		= \$	-
151531	Reconstruct Fence	LF		x		= \$	-
80XXXX	Gate (Insert Type)	EA		x		= \$	-
832006	Midwest Guardrail System (Wood Post)	LF	80	x	50.00	= \$	4,000
839301	Single Thrie Beam Barrier	LF		x		= \$	-
839310	Double Thrie Beam Barrier	LF		x		= \$	-
839521	Cable Railing	LF		x		= \$	-
8395XX	Terminal System (Type CAT)	EA		x		= \$	-
839585	Alternative Flared Terminal System	EA	2	x	3,500.00	= \$	7,000
8395XX	Alternative In-line Terminal System	EA		x		= \$	-
49XXXX	CIDH Concrete Piling (Insert Diameter)	LF		x		= \$	-
839XXX	Crash Cushion (Insert Type)	EA		x		= \$	-
83XXXX	Concrete Barrier (Insert Type)	LF		x		= \$	-
83XXXX	Concrete Barrier (Insert Type)	LF		x		= \$	-
520103	Bar Reinf. Steel (Ret. Wall)	LB		x		= \$	-
510408	Class 1 Concrete (Retaining Wall)	CY		x		= \$	-
510133	Class 2 Concrete (Retaining Wall)	CY		x		= \$	-
510060	Structural Concrete (Retaining Wall)	CY		x		= \$	-
513553	Retaining Wall (Masonry Wall)	CY		x		= \$	-
511036	Architectural Surface (Barrier)	LS	1	x	20,000.00	= \$	20,000
511048	Apply Anti-Graffiti Coating	SQFT		x		= \$	-
5136XX	Reinforced Concrete Crib Wall (Insert Type)	SQFT		x		= \$	-
83954X	Transition Railing (Insert Type)	EA		x		= \$	-
597601	Prepare and Stain Concrete	SQFT		x		= \$	-
839561	Rail Tensioning Assembly	EA		x		= \$	-
839543	Transition Railing (Type WB-31)	EA	2	x	4,000.00	= \$	8,000

TOTAL SPECIALTY ITEMS \$ 43,200

Section 5 - Environmental

5A - Environmental Stewardship

Item Code	Unit	Quantity	Unit Price (\$)	Cost
none Biological Mitigation	LS	x	= \$	-
none Coastal Wetland/Other Waters of the U.S Mitigation	LS	x	= \$	-
141000 Temporary Fence (Type ESA)	LF	200	x 2.50 = \$	500

Subtotal Environmental Stewardship \$ 500

5B - Landscape and Irrigation

Item Code	Unit	Quantity	Unit Price (\$)	Cost
200001 Highway Planting	LS	1	x 2,000.00 = \$	2,000
none Temporary Irrigation System	LS	1	x 4,500.00 = \$	4,500
204099 Plant Establishment Work - 1 year	LS	1	x 20,000.00 = \$	20,000
204101 Extend Plant Establishment (X Years)	LS	x	= \$	-
208310 Irrigation Sleeve	LF	x	= \$	-
20XXXX XXX" (Insert Type) Conduit for Irrigation x-overs) (Use	LF	x	= \$	-
20XXXX Extend XXX" (Insert Type) Conduit (Use for Extension of Irrigation x-overs)	LF	x	= \$	-
none Erosion Control	LS	1	x 6,000.00 = \$	6,000
Supplemental Work for NPDES				
066225 Additional Erosion Control	LS	1	x 1,000.00 = \$	1,000
066903 Damage Repair	LS	1	x 500.00 = \$	500

Subtotal Landscape and Irrigation \$ 34,000

5C - NPDES

Item Code	Unit	Quantity	Unit Price (\$)	Cost
074019 Prepare SWPPP	LS	x	= \$	-
none PID Water Pollution Control	LS	1	x 13,900.00 = \$	13,900
(at PID phase, this is simply a % of project cost)	LS	x	= \$	-
074023 Temporary Erosion Control	SQYD	x	= \$	-
074027 Temporary Erosion Control Blanket	SQYD	x	= \$	-
074037 Move In/ Move Out (Temporary Erosion Control)	EA	x	= \$	-
074028 Temporary Fiber Roll	LF	x	= \$	-
074042 Temporary Concrete Washout (Portable)	LS	x	= \$	-
074032 Temporary Concrete Washout Facility	EA	x	= \$	-
074033 Temporary Construction Entrance	EA	x	= \$	-
074035 Temporary Check Dam	LF	x	= \$	-
074038 Temporary Drainage Inlet Protection	EA	x	= \$	-
074031 Temporary Gravel Bag Berm	LS	x	= \$	-
Supplemental Work for NPDES				
066595 Water Pollution Control Maintenance Sharing	LS	x	= \$	-
066596 Additional Water Pollution Control	LS	x	= \$	-
066597 Storm Water Sampling and Analysis	LS	x	= \$	-

Subtotal NPDES (Without Supplemental Work) \$ 13,900

TOTAL ENVIRONMENTAL \$ 48,400

Section 6 - Traffic Items

6A - Traffic Electrical

Item Code	Unit	Quantity	Unit Price (\$)	Cost
86055X	Lighting & Sign Illumination	LS	x	= \$ -
860XXX	Signals & Lighting	LS	x	= \$ -
86XXXX	Fiber Optic Conduit System	LS	x	= \$ -
8611XX	Ramp Metering System (Location X)	LS	x	= \$ -
8611XX	Ramp Metering System (Location X)	LS	x	= \$ -
8607XX	Interconnection Facilities	LS	x	= \$ -
5602XX	Furnish Sign Structure	LB	x	= \$ -
5602XX	Install Sign Structure	LB	x	= \$ -
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF	x	= \$ -
860810	Inductive Loop Detectors	EA	x	= \$ -
8609XX	Traffic Monitoring Stations	LS	x	= \$ -
150760	Remove Sign Structure	EA	x	= \$ -
151581	Reconstruct Sign Structure	EA	x	= \$ -
152641	Modify Sign Structure	EA	x	= \$ -
860090	Maintain Existing Traffic Management System Elements During Construction	LS	x	= \$ -
Subtotal Traffic Electrical				\$ -

6B - Traffic Signing and Striping

Item Code	Unit	Quantity	Unit Price (\$)	Cost
566011	Roadside Sign (One Post)	EA	x	= \$ -
566012	Roadside Sign (Two Post)	EA	x	= \$ -
560XXX	Furnish Sign Panels	SQFT	x	= \$ -
560XXX	Install Sign Panels	SQFT	x	= \$ -
150710	Remove Traffic Stripe	LF	x	= \$ -
150701	Remove Yellow Painted Traffic Stripe	LF	x	= \$ -
150713	Remove Pavement Marking	SQFT	x	= \$ -
150742	Remove Roadside Sign	EA	x	= \$ -
152320	Reset Roadside Sign	EA	x	= \$ -
152390	Relocate Roadside Sign	EA	x	= \$ -
82010X	Delineator (Class X)	EA	x	= \$ -
84XXXX	Permanent Pavement Delineation	LS	x	= \$ -
120090	Construction Area Signs	LS	1 x 1,400.00	= \$ 1,400
Subtotal Traffic Signing and Striping				\$ 1,400

6C - Traffic Management Plan

Item Code	Unit	Quantity	Unit Price (\$)	Cost
128652	Portable Changeable Message Signs	LS	1 x 10,000.00	= \$ 10,000
Subtotal Traffic Management Plan				\$ 10,000

6D - Stage Construction and Traffic Handling

Item Code	Unit	Quantity	Unit Price (\$)	Cost
129099A	Traffic Plastic Drum	EA	x	= \$ -
12016X	Channelizer	EA	x	= \$ -
120120	Type III Barricade	EA	x	= \$ -
129100	Temp. Crash Cushion Module	EA	28 x 300.00	= \$ 8,400
120100	Traffic Control System	LS	1 x 40,000.00	= \$ 40,000
839603A	Temporary Crash Cushion (ADIEM)	EA	x	= \$ -
129000	Temporary Railing (Type K)	LF	450 x 44.00	= \$ 19,800
120143	Temporary Pavement Delineation	LF	x	= \$ -
Subtotal Stage Construction and Traffic Handling				\$ 68,200
TOTAL TRAFFIC ITEMS				\$ 79,600

Section 7 - Detours*

Item Code	Unit	Quantity	Unit Price (\$)	Cost
190101	Roadway Excavation	CY	x	= \$ -
198001	Imported Borrow	CY	x	= \$ -
390132	Hot Mix Asphalt (Type A)	TON	x	= \$ -
260201	Class 2 Aggregate Base	CY	x	= \$ -
250401	Class 4 Aggregate Subbase	CY	x	= \$ -
07XXXX	Temporary Drainage	LS	x	= \$ -
129000	Temporary Railing (Type K)	LF	x	= \$ -
1286XX	Temporary Signals	EA	x	= \$ -
120143	Temporary Pavement Delineation	LF	x	= \$ -
0713XX	Temporary Fence (Type X)	LF	x	= \$ -

* Includes constructing, maintaining, and removal

TOTAL DETOURS \$ -

Subtotal Sections 1-7 \$ 737,000

Section 8 - Minor Items (Use appropriate percentage between 5%-10%)

Total of Section 1-7 \$ 737,000 x 10% = \$ 73,700

TOTAL MINOR ITEMS \$ 73,700

Section 9 - Roadway Mobilization*

999990	Roadway Mobilization	LS	0	x	0.00	= \$ -
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TOTAL MOBILIZATION \$ -

* For Project less than 50 Working Days "Mobilization" is not required as a separate contract item, however contract item prices should take into consideration mobilization as part of the price.

Note: If the building portion of the project is greater than 50% of the total project cost, then mobilization is not included.

Section 10 - Supplemental Work (Use appropriate percentage between 5%-10%)

Total Section 1-8 = \$ 810,700 10% = \$ 81,070

Item Code	Unit	Quantity	Unit Price (\$)	Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1 x 83.00	= \$ 83
066094	Value Analysis	LS	x	= \$ -
066070	Maintain Traffic	LS	x	= \$ -
066920	Dispute Review Board	LS	x	= \$ -
066921	Dispute Resolution Advisor	LS	x	= \$ -
066015	Federal Trainee Program	LS	x	= \$ -
066700	Partnering	LS	1 x 7,000.00	= \$ 7,000
066204	Remove Rock & Debris	LS	x	= \$ -
066222	Locate Existing Cross-Over	LS	x	= \$ -

NPDES Supplemental Work specified in Section 5C = \$ -

TOTAL SUPPLEMENTAL WORK \$ 88,200

Section 11 - State Furnished Materials

Item Code	Unit	Quantity		Unit Price (\$)	= \$	Cost
066105 RE Office	LS	1	x	10,500.00	= \$	10,500
066063 Public Information	LS	1	x	2,000.00	= \$	2,000
066901 Water Expenses	LS		x		= \$	-
06684X Ramp Meter Controller Assembly	LS		x		= \$	-
06684X TMS Controller Assembly	LS		x		= \$	-
06684X Traffic Signal Controller Assembly	LS		x		= \$	-
066062A COZEEP Expenses	LS		x		= \$	-
066838 Reflective Numbers and Edge Sealer	LS		x		= \$	-
066803 Padlocks	LS		x		= \$	-

TOTAL STATE FURNISHED \$ 12,500

Use appropriate percentage based on the detail of estimate. Anything other than the suggested contingency in the PDPM needs to be *justified. (Pre-PSR 30%-50%, PSR 25%, PR 20%, PAR 15%, After PAR 10%)

Section 12 - Contingency

Total Section 1-11 \$ 911,400 x 25% = \$ 227,850

TOTAL CONTINGENCY \$ 227,900

*Justification:

Section 13 - Overhead

Item Code	Unit	Quantity		Unit Price (\$)	=	Cost
070018 Time Related Overhead (TRO)	WD	40	x	0	=	\$0

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

TOTAL OVERHEAD \$ -

II. STRUCTURES ITEMS

Date of Estimate	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0.00 SQFT	0.00 SQFT	0.00 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$ -	\$ -	\$ -

Cost of Each Structure \$ - \$ - \$ -

Date of Estimate	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0.00 SQFT	0.00 SQFT	0.00 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$ -	\$ -	\$ -

Cost of Each Structure \$ - \$ - \$ -

Total Cost of Bridges \$ -

Total Cost of Buildings \$ -

TOTAL COST OF STRUCTURES¹ \$ -

Estimate Prepared By: _____
 Division of Structures Date Phone

¹Structures' Estimate includes Overhead and Mobilization

III. RIGHT OF WAY ITEMS

No. of years for Escalation = 6

	Rate (%)	Escalation Factor	Escalated Values	
A. Acquisition, including excess lands, damages to remainder(s) and Goodwill	\$0	5.0	1.34	\$0
B. Mitigation	\$17,375	5.0	1.34	\$23,284
C. State Share of Utilities	\$0	5.0	1.34	\$0
D. Expert Witness	\$0	5.0	1.34	\$0
E. Relocation Assistance	\$0	5.0	1.34	\$0
F. Clearance/Demolition	\$0	5.0	1.34	\$0
G. Title and Escrow Fees	\$0	5.0	1.34	\$0
H. Ad Signs	\$0	5.0	1.34	\$0
TOTAL RIGHT OF WAY** ITEMS=	\$17,375			\$23,284 (Escalated Value)

Anticipated Date of Right of Way Certification: FY 19/20
(Date to which Values are Escalated)

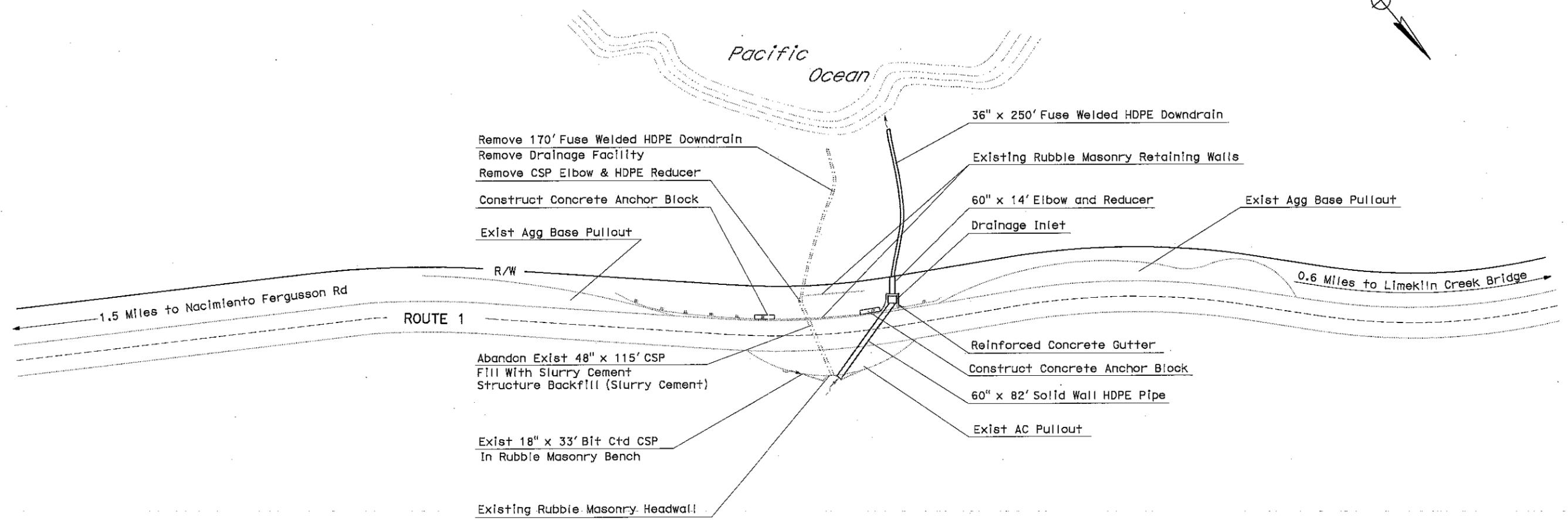
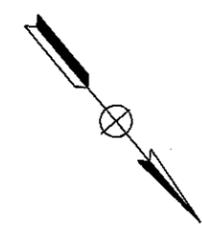
I. Construction Contract Work

Right of Way Branch Cost Estimate for Work* \$0
 * 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:

Data Sheet Signed By:	<u>Marshall Garcia</u> Project Coordinator	<u>05/19/14</u> Date	<u>(805) 549-3471</u> Phone
Appraisal Prepared By:	<u>N/A</u> Right of Way Estimator	<u> </u> Date	<u> </u> Phone
Utility Estimate Prepared By:	<u>N/A</u> Utility Relocation Coordinator	<u> </u> Date	<u> </u> Phone

(If appropriate, attach additional pages and backup including Right of Way Data Sheet and Environmental Mitigation and Compliance Cost Estimate Sheet).



DRAINAGE PLAN Not to scale

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DISTRICT 5

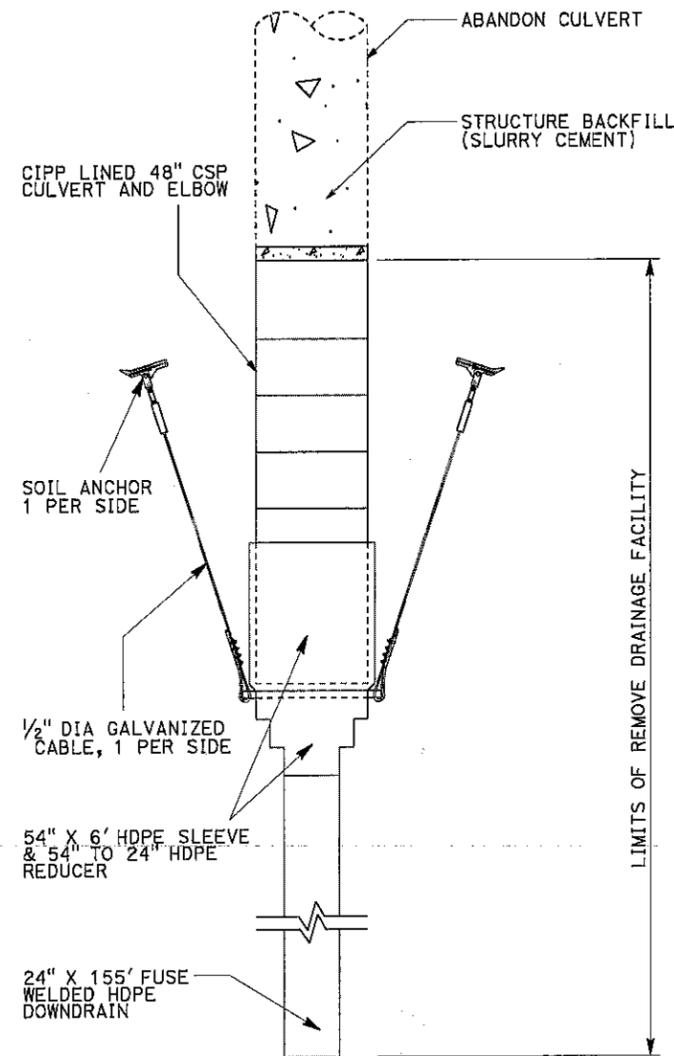
IN MONTEREY COUNTY NEAR LUCIA AT 0.6
MILE SOUTH OF LIMEKILN CREEK BRIDGE

**PROJECT STUDY REPORT
PRELIMINARY LAYOUT**

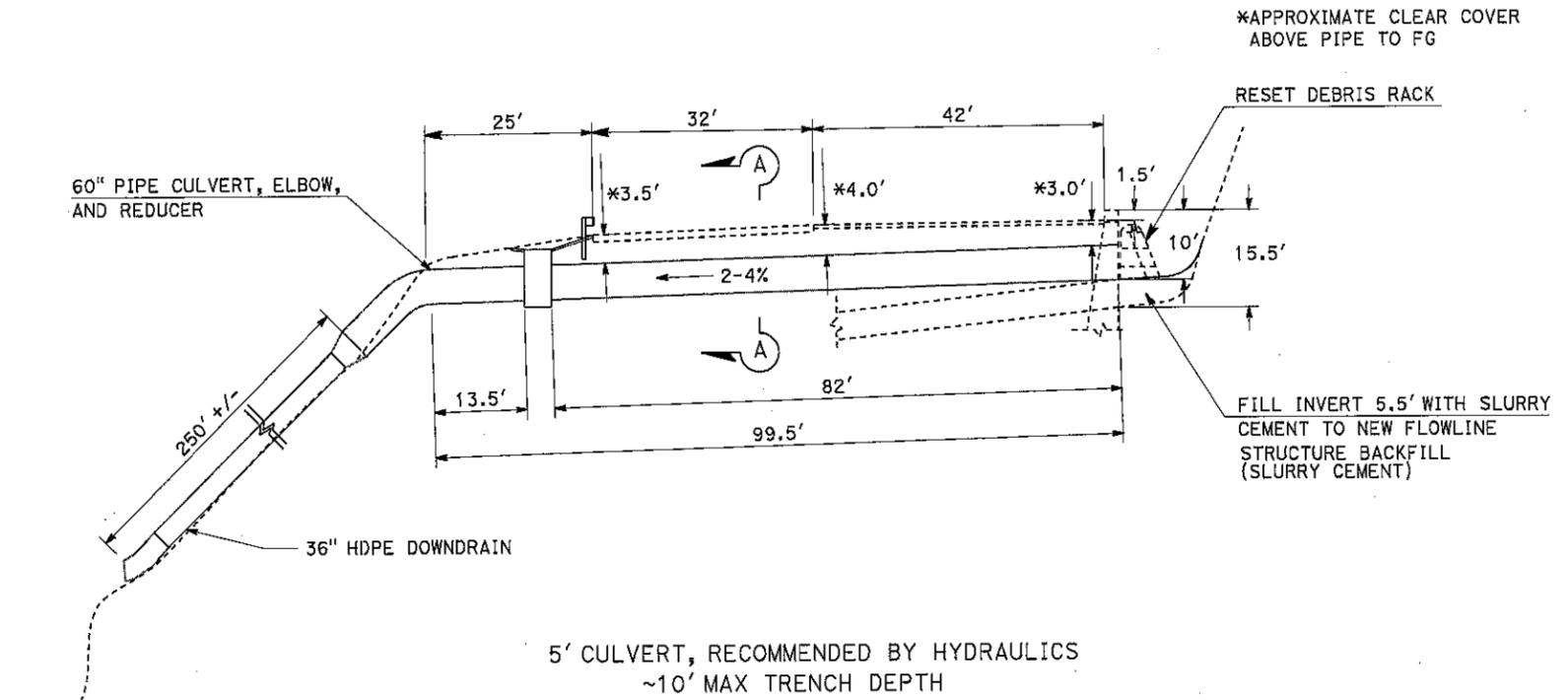
NOT FOR CONSTRUCTION, FOR INFORMATION ONLY

COUNTY	ROUTE	POST MILE	SCALE	SHEET
Mon	1	20.4		

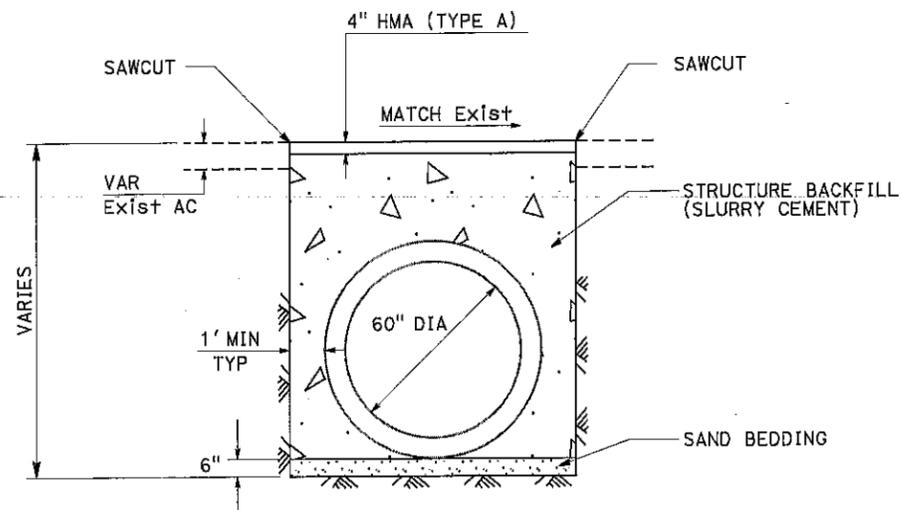
DATE PLOTTED => 24-JUL-2014
TIME PLOTTED => 08:43
LAST REVISION



REMOVE DRAINAGE FACILITY
NO SCALE



5' CULVERT, RECOMMENDED BY HYDRAULICS
~10' MAX TRENCH DEPTH



SECTION A-A
NO SCALE

*APPROXIMATE CLEAR COVER ABOVE PIPE TO FG

RESET DEBRIS RACK

FILL INVERT 5.5' WITH SLURRY CEMENT TO NEW FLOWLINE
STRUCTURE BACKFILL (SLURRY CEMENT)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DISTRICT 5

IN MONTEREY COUNTY NEAR LUCIA AT 0.6 MILE SOUTH OF LIMEKILN CREEK BRIDGE

**PROJECT STUDY REPORT
PRELIMINARY PROFILE**

NOT FOR CONSTRUCTION, FOR INFORMATION ONLY

COUNTY	ROUTE	POST MILE	SCALE	SHEET
Mon	1	20.4	1" = 25'	

DATE PLOTTED => 20-JUL-2014
TIME PLOTTED => 11:06
LAST REVISION: 07-24-14

Memorandum

Attachment D

To: Ken Dostalek
SLO - PPM

Date: 7/24/2014

File: CD 05 EA 0Q500K Alt 1
Co MON RTE 001

Attn Berkeley Lindt
SLO - Design
Ron Kraemer
SLO - Design

DESCRIPTION:
Replace Culvert and Repair Erosion

From: Department of Transportation
Division of Right of Way Central Region

Subject: RIGHT OF WAY DATA SHEET

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 5/2/2014

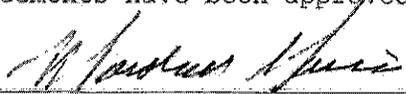
The following assumptions and limiting conditions were identified:

Appraisal

Utility

The datasheet request indicates a permit search was accomplished and that neither utility involvement nor potholing is anticipated. In 2011 AT&T responded to a utility verification inquiry that no AT&T facilities are at this location. The Caltrans database indicates that no new encroachment permits have been issued since that date. The visual record reflects the absence of aerial facilities. In the event subsequent investigation reveals that a utility facility requires relocation this estimate will require revision both in terms of costs and time involved. Comply with USA alert requirements at all project locations, including at construction sign locations. Avoid or protect in place any utility which may be discovered.

Right of Way Lead Time will require a minimum of 1 months after we receive Certified Appraisal Maps and/or Utility Conflict Plans, obtained necessary environmental clearance and applicable freeway agreements have been approved.


Marshall Garcia, Sr. Right of Way Agent
San Luis Obispo Field Office
(805) 549-3471

Right Of Way Cost Estimate

	Current Year 2014	Contingency Rate	Right of Way Escalation Rate	Escalated Year 2020
Acquisition:	\$0	25%	5%	\$0
Mitigation:	\$17,375	25%	5%	\$23,284
State Share of Utilities:	\$0	25%	5%	\$0
Expert Witness:	\$0	25%	5%	\$0
Relocation Assistance:	\$0	25%	5%	\$0
Demolition and Clearance:	\$0	25%	5%	\$0
Title and Escrow:	\$0	25%	5%	\$0
Ad Signs:	\$0	25%	5%	\$0
Total Current Value:	\$17,375			\$23,284

If RW Cost Est fields are blank, Costs = \$0

Estimated Construction Contract Work (CCW):

R/W LEAD TIME/Mo. 1

Cost Break Down	
Pot Hole	
Mitigation	
Land	
Bank	
Permit Fees	13,900

RR Involvement

Railroad Facilities or Right of Way Affected?	no
Const/Maint Agreement:	no
Service Contract:	no
Right of Entry:	no
Clauses:	no
Estimated Lead-time	0 mon

Parcel Data

# of Parcel Type X:		
# of Parcel Type A: less than \$10,000 non-complex		
# of Parcel Type B: more than \$10,000 non-complex		
# of Parcel Type C: complex, special valuation		
# of Parcel Type D: most complex and time consuming		# of Duals Needed:
Totals:	0	Totals: 0

Utilities

U4-1: Owner Expense	0
U4-2: State Expense, Conventional no Fed Aid	0
U4-3: State Expense, Freeway no Fed Aid	0
U4-4: State Expense, both with Fed Aid	0
U5-7: Utility verification, no relocation/potholing	0
U5-8: Utility verification, w/ some relocation/potholing	
U5-9: Utility verifications, relocation/potholing required	0

of Excess Parcels:

Misc R/W Work

# of RAP Displacements:	0
# of Clearance/Demos:	
# of Const Permits:	
# of Condemnations:	

Parcel Area

Total R/W Required:
Total Excess Area:

General Description of R/W and Excess Lands Required (zoning, use, major improvements, critical or sensitive parcels, etc.):

General Description of Utility Involvement:

Highway 1 is designated Conventional Highway in the project area. In 2011 the previous PE and r/w coordinator suggested that there were no utilities in the project area.

Is there a significant effect on assessed valuation:

No

Were any previously unidentified sites with hazardous waste or material found:

No

Are RAP displacements required:

No

of single family:

of multi-family:

of business/nonprofit:

of farms:

Sufficient replacement housing will be available without last resort housing:

Are material borrow or disposal sites required:

No

Are there potential relinquishments or abandonments:

No

Are there any existing or potential airspace sites:

No

Are environmental mitigation parcels required:

Yes

Data for evaluation provided by:

Estimator:

Railroad Liaison Agent:

sah

5/14/2014

Utility Relocation Coordinator:

Chris Shaeffer

5/5/2014

I have personally reviewed this Right of Way Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

Date

ENTERED PMCS

5/15/2014

Marshall Garcia
Sr. Right of Way Agent, Right of Way

BY: Dahny Millsap

Short Form - Storm Water Data Report



Dist-County-Route: 05 - Mon - 1
 Post Mile Limits: 20.4
 Project Type: Culvert Replacement
 Project ID (or EA): 05-0002-0288-K (05-00500K)
 Program Identification: SHOPP 201.151
 Phase: PID
 PA/ED
 PS&E

Regional Water Quality Control Board(s): Central Coast, Region 3

- | | | |
|---|------------------------------|--|
| 1. Is the project required to consider incorporating Treatment BMPs? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 2. Does the project disturb 5 or more acres of soil? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 3. Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 4. Does the project potentially create permanent water quality impacts? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 5. Does the project require a notification of ADL reuse | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

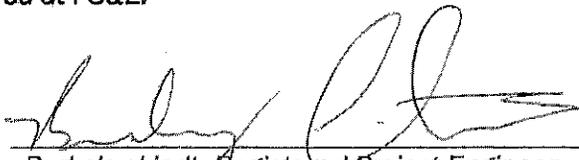
If the answer to any of the preceding questions is "Yes", prepare a Long Form – Storm Water Data Report.

Estimate Construction Start Date: 7/1/2020 Construction Completion Date: 10/1/2020

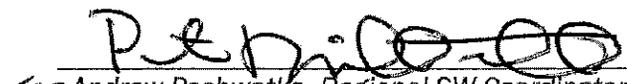
Separate Dewatering Permit (if yes, permit number) Yes Permit # _____ No

Erosivity Waiver Yes Date: _____ No

This Short Form – Storm Water Data 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.


 Berkeley Lindt, Registered Project Engineer 5/22/14
Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:


 Andrew Pochwatka, Regional SW Coordinator or Designee 5/28/2014
Date

(Stamp Required for PS&E only)

LEVEL 1 - RISK REGISTER			Project Name: Replace Culvert near Limekiln Creek				DIST- EA: 05 - 0Q500K		Project Manager: Ken Dostalek			
Risk Identification							Risk Rating		Risk Response			
Status	ID #	Type	Category	Title	Risk Statement	Current status/assumptions	Priority Rating	Rationale for Rating	Strategy	Response Actions	Risk Owner	Updated
Active	1	Threat	Environmental	Permit Delays	Project will require USACOE Section 404, RWQCB Section 401, CDFG Section 1602, and Coastal Development permits. Permits could be delayed or denied, which would lead to project schedule delays.	This threat would be present in the PS&E phase when permit applications are submitted.	Medium		Mitigate	Early contact with permitting agencies. Make sure all permit applications are complete and accurate.	EM	6/27/2014
Active	2	Threat	Environmental	Onsite vs. Offsite Mitigation Planting	Project is within endangered Smith's Blue Butterfly habitat (buckwheat). Mitigation planting may be required and with replanting ratios commonly 5:1 or higher finding an offsite planting location may be necessary.	This threat would be present in the PA&ED phase when preparing the environmental document and during the PS&E phase when applying for permits.	Medium		Mitigate	Seek acceptable off-site mitigation site if needed early in the PA&ED phase.	EM	6/27/2014
Active	3	Threat	Design	Unexpected Site Conditions Discovered During Geotechnical Investigations	Unforeseen underground geotechnical conditions could lead to changes in replacement strategy, increased costs, or schedule delay.	This threat would be present in the PA&ED phase when geotechnical investigations are being conducted.	Low		Accept	Monitor costs and schedule closely if threat is triggered. Develop strategy to stay within programmed amounts.	DM	6/27/2014
Active	4	Threat	Construction	Differing Site Conditions in Construction	Unforeseen underground geotechnical conditions could lead to difficult trenching or jacking operations resulting in increased costs or schedule delay.	This threat would be present in the construction phase.	Low		Accept	Monitor costs and schedule closely if threat is triggered. Develop strategy to stay within programmed amounts.	DM	6/27/2014
Active	5	Threat	Design	Utility Conflicts Discovered During Design	Existing underground utilities may be in conflict with the proposed design. This could delay the schedule while utility conflicts are resolved.	This threat would be present in the PS&E phase when potential utility conflicts are "positively located" (pos-loc). It is estimated that this could add 6 months to the schedule.	Medium		Mitigate	Begin utility verification and pos-loc (if needed) early in the PA&ED phase which will allow time for conflict resolution.	DM	6/27/2014
Active	6	Threat	Construction	Unexpected Underground Utilities Discovered in Construction	Unexpected underground utilities may be discovered either during trenching or jacking operations, which could result in changes to replacement strategy, increased costs, or delayed completion date.	This threat would be present in the construction phase.	Low		Accept	Monitor costs and schedule closely if threat is triggered. Develop strategy to stay within programmed amounts.	CM	6/27/2014
Active	7	Threat	Construction	Contract Suspension due to weather	Construction windows, concerns for water quality, or difficulty working in the rainy season may result in winter suspension that would affect completion date.	This threat would be present in the construction phase.	Low		Accept	Monitor costs and schedule closely if threat is triggered. Develop strategy to stay within programmed amounts.	CM	6/27/2014
Active	8	Threat	Environmental	Impacts to Cultural Resources	The State Historic Preservation Office (SHPO) may require a "Finding of Adverse Effect" and an MOA if impacts to cultural resources are anticipated. This will likely affect the project schedule and costs, since mitigation measures will need to be developed.	This threat would be present in the PA&ED phase.	Low		Accept	Monitor costs and schedule closely if threat is triggered. Develop strategy to stay within programmed amounts.	EM	6/27/2014
Active	9	Threat	Environmental	Public Hearing	A public hearing may be required if an appeal of the draft environmental document were to occur during external circulation. This would delay completion of the environmental document.	This threat would be present in the PA&ED phase.	Low		Accept	Add flexibility to schedule avoid delay.	EM	6/27/2014



Preliminary Environmental Analysis Report

Project Information

District	<u>05</u>	County	<u>MON</u>	Route	<u>1</u>	Post Mile	<u>20.4</u>	EA	<u>05-0Q500K</u>
Project ID#:	<u>05-00020288</u>								
Project Title:	<u>Replace Culvert</u>								
Project Manager:	<u>Ken Dostalek</u>	Phone #:	<u>805-549-3133</u>						
Design Manager:	<u>Ron Kraemer</u>	Phone #:	<u>805-549-3040</u>						
Design Engineer:	<u>Berkeley Lindt</u>	Phone #:	<u>805-549-3071</u>						
Environmental Manager:	<u>Matt Fowler</u>	Phone #:	<u>805-542-4603</u>						
Environmental Planner:	<u>Mike Thomas</u>	Phone #:	<u>805-549-3023</u>						

PSR Summary Statement

The anticipated environmental document for the proposed project is a Mitigated Negative Declaration/Categorical Exclusion. This document level has been selected based on the impacts to Smith's Blue Butterfly habitat and impacts to the historic Lucia Water Fountain (DM-354) which are anticipated to be mitigated below the threshold of significance as defined by CEQA. The California Department of Transportation would act as the lead agency in the preparation of a joint NEPA/CEQA (National Environmental Policy Act/California Environmental Quality Act) environmental document. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 U.S. Code 327. The estimated time to obtain environmental approval is 20 months from the start of environmental studies. Assuming a start date of July 1, 2016, environmental studies would begin October 1, 2016 after project preliminary maps and permits to enter are completed. Final environmental document would be anticipated by June, 2018.

It is anticipated multiple environmental studies and reports will be required for this project including (but not limited to): An Archaeological Survey Report, Historic Resource Evaluation Report, Historic Property Survey Report, Finding of Effect, and Memorandum of Agreement with the SHPO will be required, visual impact assessment, biological assessment, Section 7 consultation and a Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS). It is currently estimated that Cultural Resource Studies will be the critical path for the delivery of the environmental document. A 401, 404, and 1600 and Coastal Development permit will be required issued by the Regional Water Quality Control Board, Army Corps of Engineers, Dept. of Fish and Wildlife and California Coastal Commission, respectively. Cultural Resource preservation and restoration for the resources at the project site is expected as a requirement of the project with an estimated cost of \$50,000.

Project Description

The California Department of Transportation (Caltrans) proposes to replace a corrugated steel pipe culvert on Highway 1 in Monterey County. The culvert is located at PM 20.4 near Lucia at 0.58 miles south of Limekiln Creek Bridge.

Purpose and Need

Purpose:

The purpose of this project is to protect the roadway on State Route 1 (SR1) from failure due to the continued deterioration of the existing culvert which has met its service life.

Need:

According to Drainage System Reports developed in the District 5 Culvert Inspection Program, the 48" CSP culvert experienced corrosion, a joint shift, and deformation, and erosion occurred at the outlet below an existing masonry rubble retaining wall. In 2008 Expenditure Authorization (EA) 05-0N5204 addressed the erosion issue by placing a 48" CSP elbow and a High Density Polyethylene (HDPE) downdrain routing drainage to the base of the slope. As a short term repair, the existing culvert was lined with a CIPP liner to extend the service life and prevent potential slope and roadway failure until the culvert could be replaced

Although the existing culvert was lined, it is still significantly out-of-round and structurally deficient and without replacement, the culvert could still fail and cause roadway failure by the collapsing of the culvert causing water to overtop the roadway or the liner could crack and allow water to flow into the embankment beneath the culvert causing the roadway to wash out. Considering the additional impacts (economic, environmental, local, time delays) of a possible collapse and the following mandatory highway closure to complete repairs, it is recommended the culvert be replaced. If the highway has to be closed for an extended period of time for major repairs, local residents would be inconvenienced and local businesses would be damaged by loss of revenue from tourist traffic

Description of Work

The proposed project on State Route 1 (SR1) in Monterey County is to replace an existing, structurally deficient 48" corrugated steel pipe (CSP) culvert crossing beneath the highway at Post Mile 20.37. The District Hydraulics department performed a hydrologic and hydraulic analysis on the culvert system using currently approved methods to determine the adequate culvert size to convey 100-year storm flows under the highway

Alternatives

The build alternative proposes to install a new 100-foot long 60-inch solid wall HDPE pipe, or other equivalent suitable pipe to be determined during the design phase, along a new alignment. A solid wall HDPE culvert will provide better resistance to abrasion, caused by hard gravel and rock bed loading combined with the potential for high flow velocities within the pipe. The outlet of the new culvert will be approximately 80 feet north of the existing 48" CSP to avoid the two existing historic masonry retaining walls that support the roadway. Also, the new culvert will be approximately 5.5' shallower than the existing culvert to allow for quicker construction with less impact to the existing masonry headwall, roadway, and the traffic flows. A drainage inlet will be constructed between the edge of pavement (EP) and hinge point (HP) and a concrete gutter will be placed to catch surface water running off the road to prevent erosion. A 250-foot long 36"

HDPE fuse welded downdrain will be attached to the new HDPE culvert via an elbow and a reducer. The downdrain will carry flow to the bottom of the slope just above the ocean. To account for Sea Level Rise the end of the downdrain will be selected with an assumed sea level rise of 60" (high estimate for the year 2100). Also, the outlet of the downdrain location will be adjusted to account for wave action

It is expected at this time that the existing culvert system will be used to convey any existing flows during construction of the new culvert. Upon completion, the existing 48" CSP culvert will be abandoned with slurry cement and plugged with concrete. The historic inlet masonry headwall will be modified to connect the new 60" HDPE, care will be taken to preserve as much of the headwall as possible. Where modifications are made to the historic headwall, rubble will be reused to match the appearance of the existing as close as practicable. The invert just upstream of the masonry headwall will be filled with concrete or slurry 5.5 feet in order to direct flow to the new 60" HDPE. During this work it is anticipated that flows will need to be diverted to an adjacent drainage system until the new invert is set. The existing 24" HDPE fuse welded downdrain, the 48" CSP elbow, and the 48" to 24" HDPE reducer will be removed. The existing debris rack at the inlet will be reused if compatible with the new culvert or a new debris rack will be constructed for the new 60" culvert. The debris rack will prevent large objects from clogging the culvert and downdrain, blocking flows which could wash out the roadway

The trenched area across the roadway will be backfilled with slurry cement and the roadway will be patched with hot mix asphalt (HMA). The metal beam guardrail along the southbound shoulder north and south of the existing masonry rubble barrier will be replaced with the new standard Midwest Guardrail System (MGS) with wood posts. The new guardrail should be treated to darken the metal to give an aged, rustic appearance. A concrete anchor block, or other suitable guardrail end treatment to be decided in the design phase, will be constructed on each end of the existing masonry barrier along the SB outside shoulder to connect to the new MGS

No-Build

The "No-Build" alternative proposes to leave the existing culvert in place, as is, with no modifications. This alternative is unacceptable due to concerns the pipe may collapse resulting in possible roadway failure

Funding

State Federal

The project will be funded through the State Highway Operation and Protection Program (SHOPP) under Drainage System Restoration (20.80.020.151).

Anticipated Environmental Approval

CEQA

NEPA

- | | |
|---|---|
| <input type="checkbox"/> Categorical Exemption/Statutory Exemption | <input type="checkbox"/> Categorical Exclusion (<input checked="" type="checkbox"/> 6004/ <input type="checkbox"/> 6005) |
| <input checked="" type="checkbox"/> Negative Declaration/Mitigated ND(<input type="checkbox"/> Appendix G) | <input type="checkbox"/> Finding of No Significant Impact |
| <input type="checkbox"/> Environmental Impact Report | <input type="checkbox"/> Environmental Impact Statement |

Anticipated Environmental Schedule

Total Time for Environmental Approval	20 months
Start Date	7/1/2016
Begin Environmental	10/1/2016
Draft Environmental Document	2/1/2018
Final Environmental Document	6/1/2018
PA&ED*	7/1/2018

**PA&ED is generally 1 month following the FED date*

Assumptions and Risks

Risks to the project have been defined in accordance with the Project Risk Management Handbook, May 2, 2007, Second Edition, Rev 0:

Assumptions:

Cultural Resources

- Assume ~~and~~ no new archaeological sites will discovered that will need to be evaluated for the National Register
- Assume that consultation with the State Historic Preservation Officer (SHPO) concerning the resolution of a Finding of Adverse Effect through the preparation of a Memorandum of Agreement (MOA) will proceed without unexpected d delays.
- Approved and Adequate Mapping is submitted to Environmental by October 1st, 2016

Visual Resources

- Retaining the historic stone features of the project site by rebuilding to the Secretary of Interior Standards

Biological Resources

- USFWS will issue a concurrence for using the programmatic Biological Opinion for the Smith's Blue Butterfly

Risks:

- Project scope expands and not being able to secure right to enter permit in timely manner pushing the schedule out by up to 6 months
- Unexpected delays in receiving MOA from SHPO delaying schedule by 6 months
- Environmental does not receive approved and adequate mapping resulting in the schedule being pushed out by up to 6 months
- The impacts to the historic features of the project site cannot be reduced to a level of insignificance resulting in the environmental document being elevated from MND to EIR delaying schedule by 6-12 months
- USFWS does not allow Caltrans to use the Programmatic Biological Opinion and requires an individual Biological Opinion resulting in the schedule being extended by 6 months
- We receive more comments on MND than expected requiring additional time to address

Mitigation

Right of Way Capital (050)

- Dept. of Fish And Wildlife 1602 permit-\$4,000
- Regional Water Quality Control Board 401 Permit-\$1,400
- Dept of Fish and Game Doc Review Fee-\$4,500
- California Coastal Development Permit-\$4,000

Construction Capital (042)

- Reconstruction and restoration of damaged portions of the historic Lucia Fountain and related masonry features- \$50,000

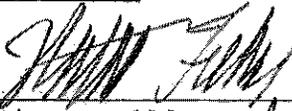
Disclaimer

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 Initiation Document. Changes in project scope, alternatives, or environmental laws will require a reevaluation of this report.

Review and Approval

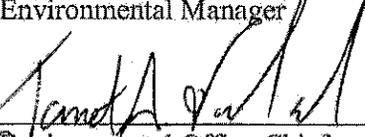
I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

Approved by:



Environmental Manager

Date: 07/01/14



Environmental Office Chief

Date: 7-1-2014



Project Manager

Date: 7-3-14

Environmental Technical Reports or Studies Required

Required—requires analysis including field surveys, database searches, report, or memo to file and brief explanation in the environmental document.

Not Required—Issue is not applicable to the proposed project.

Possible Critical Path—Major issue that has the potential to drive the schedule and determine the length of time to reach PA&ED (can be more than one major issue).

	Required	Clearance Memo Received	Not Required	Possible Critical Path
Biology		<input type="checkbox"/>		<input checked="" type="checkbox"/>
Endangered Species (Federal)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Endangered Species (State)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Species of Concern (CNPS, USFS, BLM, S, F)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Wetland Delineation	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Natural Environment Study	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Biological Assessment (USFWS, NMFS, State)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Cultural Resources				<input checked="" type="checkbox"/>
ASR	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
HRER	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
HPSR/HRCR	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Screening Memo	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SHPO Concurrence	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Native American Coordination	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Finding of Effect Document	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Treatment Plan & MOA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Hazardous Waste		<input type="checkbox"/>		<input type="checkbox"/>
ISA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
PSI	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
ADL	<input type="checkbox"/>		<input type="checkbox"/>	
Air Quality Analysis		<input checked="" type="checkbox"/>		<input type="checkbox"/>
Hot Spot Analysis	<input type="checkbox"/>		<input type="checkbox"/>	
MSAT	<input type="checkbox"/>		<input type="checkbox"/>	
Noise Study	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Impact Assessment				<input type="checkbox"/>
Environmental Justice	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Growth Related Impacts	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Cumulative Impacts	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Farmland	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Visual Resources		<input type="checkbox"/>		<input type="checkbox"/>
Scenic Resource Evaluation	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Visual Impact Assessment	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Floodplain Evaluation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Paleontology	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section 4(f) Evaluation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wild and Scenic River Consistency	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Geology	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Topology	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Soils	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Greenhouse Emissions	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Permits Anticipated for Construction

	<u>Required</u>	<u>Not Required</u>
401 Permit Coordination (discharge into navigable waters)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination (discharge into waters of the US including wetlands)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> - Nationwide		
<input type="checkbox"/> - Individual		
1600 Permit (Streambed Alteration)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
City/County Coastal Permit Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>
State Coastal Permit Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NPDES Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>
US Coast Guard (Section 10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State 2081 Permit (State only incidental take of threatened or endangered species)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Technical Review

Biology

Biological impacts are anticipated; impacts would be to native flora, and possible impacts to special status species (both temporary and permanent). Field studies and additional research will have to be conducted to assess the types of impact and what action would be required. Impacts to waters of the U.S. and wetlands from the project and any temporary access roads will need to be quantified. A Natural Environment Study, Wetland Delineation and Biological Assessment for Smith's Blue Butterfly will be required.

Cultural Resources

This location has High sensitivity based on the TEA inventory which covered the ROW completely. No archaeological sites are in the APE of the project, but four masonry features constructed in the 1930s exist within the project area. Three of these masonry resources are contributing elements of the Carmel-San Simeon Highway Historic District, which is eligible for listing in the National Register of Historic Places. The fourth masonry resource, a small retaining wall, has not yet been evaluated; it is anticipated, however, that this resource will also be determined to be a contributing resource of the historic district. An Archaeological Survey Report, Historic Resource Evaluation Report, Historic Property Survey Report, Finding of Effect, and Memorandum of Agreement with the SHPO will be required.

Hazardous Waste

Serpentinitic or ultra mafic materials may be present in the project area. These materials contain naturally occurring asbestos (NOA), which may be present. An Initial Site Assessment and Preliminary Site Assessment will be required

Air Quality Analysis

The proposed project is located within the North Central Coast Air Basin. According to 40 CFR Section 93.126 Table 2, rehabilitation projects are exempt from the requirement that a conformity determination be made. No further study is needed.

Noise Study

The proposed project would not increase traffic or alter the location of the highway and is not considered a Type 1 project. No further study is required

Water Quality

A Water Quality Assessment has determined that no water quality impacts are anticipated

Community Impact Assessment

No communities within the project limits will be affected by the project

Cumulative Impacts

A Cumulative Impacts analysis will be addressed in the Initial Study.

Farmland

The project will not be acquiring any farmland or be impacting any farmland.

Visual Resources

Potentially adverse impacts resulting from the project will require a visual study to analyze the level of visual impacts expected and the appropriate mitigation measures to reduce those impacts to a level below significant.

Floodplain Evaluation

The project is not located in a 100 year floodplain.

Paleontology

Since all work will take place on the pavement and shoulders where soils have been previously disturbed and in rocks not known to contain fossil remains, it is unlikely that paleontological resources will be encountered within the project limits.

Section 4(f) Evaluation

The project is located within the Carmel-San Simeon Highway Historic District. A section 4(f) determination will need to be made.

Wild and Scenic River Consistency

There are no Wild and Scenic Rivers within the project limits.

Geology

A geotechnical investigation will be required at the site to determine engineering properties of local soil and rock, including depth of soil profile, hydraulic conductivity, and relative density.

Topology

A geotechnical investigation will be required at the site to determine engineering properties of local soil and rock, including depth of soil profile, hydraulic conductivity, and relative density.

Soils

A geotechnical investigation will be required at the site to determine engineering properties of local soil and rock, including depth of soil profile, hydraulic conductivity, and relative density.

Greenhouse Emissions

A Greenhouse Emissions analysis is not required for this project.

Permits.

- 1600 Permit Required because of proposed work in Waters of the United States.
- 401 Permit Required because of proposed work in Waters of the United States
- 404 Permit Required because of proposed work in Waters of the United States
- Coastal Development Permit because of proposed work in the coast zone
- Biological Opinion because of proposed work within Smith's Blue Butterfly habitat

List of Preparers

Biology by Paul Holmes	2/26/2014
Cultural Resources by Paula Carr & Krista Kiaha	4/23/2014
Visual Resources by Bryan Parker	4/23/2014
Air and Noise by Abdul Rahim Chafi	5/14/2014
Water Quality by Isaac Levya	4/15/2014
Paleontology by Isaac Levya	4/15/2014
Hazardous Waste by Jim Tkach	4/22/2014
Preliminary Environmental Analysis Report by Michael H. Thomas	4/15/2014

Drainage System Report

County: **Monterey** Route: **1** Outlet PM: **20.37**

Date of Inspection: **10/23/2003**

System Number: 440010002037

Data File: R102309A.SSF

Contact Person: Victor Devens victor_devens@dot.ca.gov 805-549-3406

Remarks

3/9/2006 - Project to CIPP line culvert & place HDPE Downdrain to the beach initiated June 2005. EA 0N5201. Project Engineer Grant Krueger, X3600. Env Request out 15 Aug '05. R/W Request out 06 Sept '05.

4/22/2008 - Because the project costs exceeded the Minor B limit, this project has been combined with two others under the EA 0N5201 and is now a Minor A. The new project consists of culverts on Mon 1 at PM 20.37, 23.32, and 45.28.

4/22/2008 - After much discussion regarding the strategy for dealing with corrosion, out-of-roundness, and joint offset of the culvert at this location with HQ Hydraulics, the District has



Inlet/Outlet End Treatments

Node	PM	Feature	Flow	Side	Action 1	Action 2	Initial Proj Priority
1	20.37	Headwall	Outlet	Left	Do Nothing		
2	20.37	Headwall	Inlet	Right			

Culverts/Conveyance

Node	In	Out	Feature	Size (ft)	Type	Material	Action 1	Action 2	Initial Proj Priority
2	1		Culvert	4	Circular	CSP	Replace		Within 0-1 year

Road Assessment (related to culvert performan

Node	In	Out	Feature	Assessment	Action	Initial Proj Priority
2	1		Culvert	No Data	No Data	

Inlet/Outlet End Treatment Report: 440010002037, Node 1

Feature Type: Headwall
Material Type: Concrete
RSP: No **Gabions:** No
Side of Highway Looking Up-Post Mile: Left
Approximate Distance From ETW (ft): 60

Channel/Stream Type: Defined: Natural
Waterway Condition: Good
Embankment Slope: Good
Material Condition: Good
Stream Condition: Good
Shape Condition: Good
Joint Condition: Good

Additional Action Items:

Global Position: Longitude : -121.5092624990
 Latitude : 36.0055264720

Inventory Notes: No outlet photo.

Assessment Notes:

Approx Headwall Size (ft)				
L	H	Lt WW	Rt WW	Vertical Drop (ft)
30	15	0	0	No



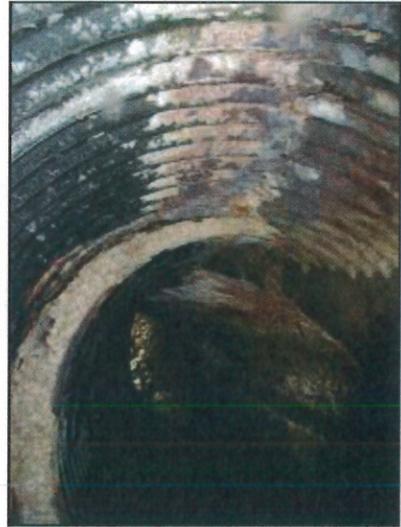
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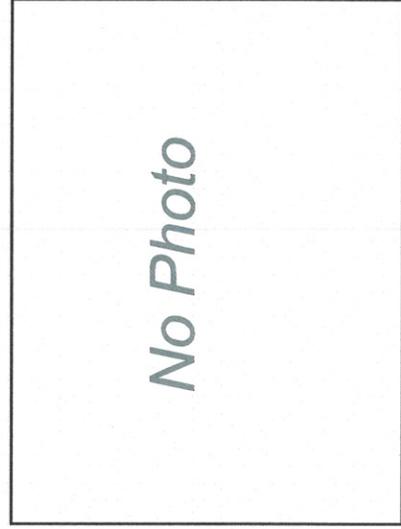
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No Photo

Culvert Report: 440010002037 Node In: 2 Node Out: 1

Conveyance Type Culvert

No. of Barrels: 1

Culvert Orientation: Transverse

Approx Scw Angle: 0

No. of Lanes over Culvert 2

Approx Max of Fill Over Culvert (ft) 25

Side of Highway Looking Up-Post Mile NA

Inspection Type: Walk Through

Joint Condition : Critical

Shape Condition: Critical

Material Condition: Critical

Waterway Condition: Critical

Alignment Condition: Critical

Video Inspection Report : No

Additional Action Items:

Inventory Notes:

Assessment Notes: Water runs underneath invert.



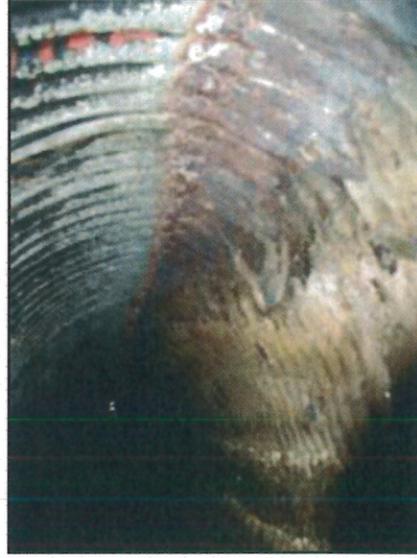
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Drainage System Remarks Report

County: Monterey **Route:** 1 **Post Mile:** 20.37 **System No:** 440010002037

3/9/2006 - Project to CIPP line culvert & place HDPE Downdrain to the beach initiated June 2005. EA 0N5201. Project Engineer Grant Krueger, X3600. Env Request out 15 Aug '05. R/W Request out 06 Sept '05.

4/22/2008 - Because the project costs exceeded the Minor B limit, this project has been combined with two others under the EA 0N5201 and is now a Minor A. The new project consists of culverts on Mon 1 at PM 20.37, 23.32, and 45.28.

4/22/2008 - After much discussion regarding the strategy for dealing with corrosion, out-of-roundness, and joint offset of the culvert at this location with HQ Hydraulics, the District has decided to proceed with a 48 inch CIPP liner and the HDPE fuse welded downdrain to extend the culvert's service life and eliminate the scour and erosion occurring next to the retaining wall at the outlet. The District will also monitor the CIPP liner periodically by taking set measurements inside the pipe to make sure it is functioning as planned. Also, we will initiate a culvert replacement project at this location to offer a more permanent solution through the SHOPP 201.151 program under the EA 0Q500k. This process will be quite lengthy due to the significant environmental concerns associated with this site and limited funding. Our immediate concern is that we need to extend its service life to reduce the chance that the culvert backfill/bedding material is not washed out and roadway fill slope is compromised. We are confident that the CIPP liner will extend the culvert's service life through the interim. RRK

7/14/2008 - Major Contract 05-0N5204 to line 3 culverts on Mon-1 (PMs 20.37, 23.3 & 45.3) opened bids on 22 April '08. Construction was delayed some by the fires in Big Sur area, summer of '08.

1/15/2014 - Current Status: Ron Kraemer's squad has been assigned the design of the project. EA 0Q500K.
VED

CENTRAL REGION PSR DISTRIBUTION LIST			
Division / Program / Office	Project Type	D5	
HQ Division of Design	All Projects	Design Report Routing	2
HQ SHOPP Program Advisor	SHOPP (201.151)	Wes Wilson	1
HQ Division of Engineering Serv	All Projects	Division of Engineering Services	5
HQ Transportation Programming	SHOPP	Rick Guevel	1
HQ Environmental	All Projects	Bob Pavlik	1
Project Manager	All Projects	Ken Dostalek	1
Design Manager	All Projects	Ron Kraemer	2
Resident Engineer	All Projects	Dan Miller	1
District Maintenance	All Projects	Lance Gorman	1
	SHOPP	Kelly McClain	1
District Traffic Management	All Projects	Jacques Van Zeventer	1
District Traffic Safety	Mon	Mark Ballentine	1
Region Traffic Design	All Projects	Mohammed Qatami	1
District Traffic Operations	All Projects	Paul McClintic	1
Region Materials	All Projects	Eric Karlson	1
Region Environmental	All Projects	Susan Schilder	1
Region Landscape	All Projects	Dennis Reeves	1
Region Right of Way	All Projects	Suzette Shellooe	1
Distict Planning	All Projects	Claudia Espino	1
PPM	All Projects	Linda Araujo	1
District Surveys	All Projects	Jeremy Villegas	1
	Mon/SC/SBt	Bob Fredricks	1
District Records	All Projects	Pat Duty (electronic copy only)	0
TOTAL COPIES		District 5 = 28	
CR PJD Support	Last Revised 3-3-14		

DISTRICT 5 TRANSPORTATION MANAGEMENT PLAN

District / EA: 05/0Q500K
 Project Engineer: Berkeley Lindt
 Date Prepared: 4-Feb-14

Co.-Rte-PM: MON-1 20.37
 Description: Replace Culvert
 Working Days: 30 days

Check each box and reference your attachments to the item(s) number(s) shown on the list.

1.0 Public Information

- 1.1 Public Awareness Campaign
- 1.2 Other Strategies

Required	Not required	Not Applicable	COMMENTS
x			Include \$2000 in 066063 (TMP)
	x		Contact PIO

2.0 Motorist Information Strategies

- 2.1 Changeable Message Signs
- 2.2 Construction Area Signs
- 2.3 Highway Advisory Radio (fixed and mobile)
- 2.4 Planned Lane Closure Web Site (D5)
- 2.5 Caltrans Highway Information Network (CHIN)

Required	Not required	Not Applicable	COMMENTS
x			Provide one CMS per direction. \$10,000
x			
		x	
x			Construction to provide information for D5 website
		x	

3.0 Incident Management

- 3.1 COZEEP
- 3.2 Freeway Service Patrol

Required	Not required	Not Applicable	COMMENTS
	x		
	x		

4.0 Traffic Management Strategies

- 4.1 Lane/Ramp Closures Charts
- 4.2 Total Facility Closure
- 4.3 Coordination with adjacent construction
- 4.4 Contingency Plan - see below
 - 4.4.1 Material/Equipment Standby
 - 4.4.2 Emergency Detour Plan
 - 4.4.3 Emergency Notification Plan
- 4.5 SSP 12-220 and Others
- 4.6 Other Strategies:

-Special Days include: Jade Festival, Big Sur Marathon
Amgen Tour and AIDS Lifecycle Ride
-Signs and advanced public notification required

Required	Not required	Not Applicable	COMMENTS
x			To be provided during PS&E
	x		
x			
x			Contractor furnished for ops w/ lane closures.
x			as needed
x			as needed
x			as needed
x			
x			
x			
x			
x			
x			
x			

5.0 Anticipated Delays

- 5.1 Lane Closure Review Committee
(for anticipated delays over 30 minutes)
- 5.2 Planned freeway closures

Required	Not required	Not Applicable	COMMENTS
	x		
	x		

5.3 Minimal delay anticipated -

yes no

Shayne Sandeman
 District TMP Coordinator