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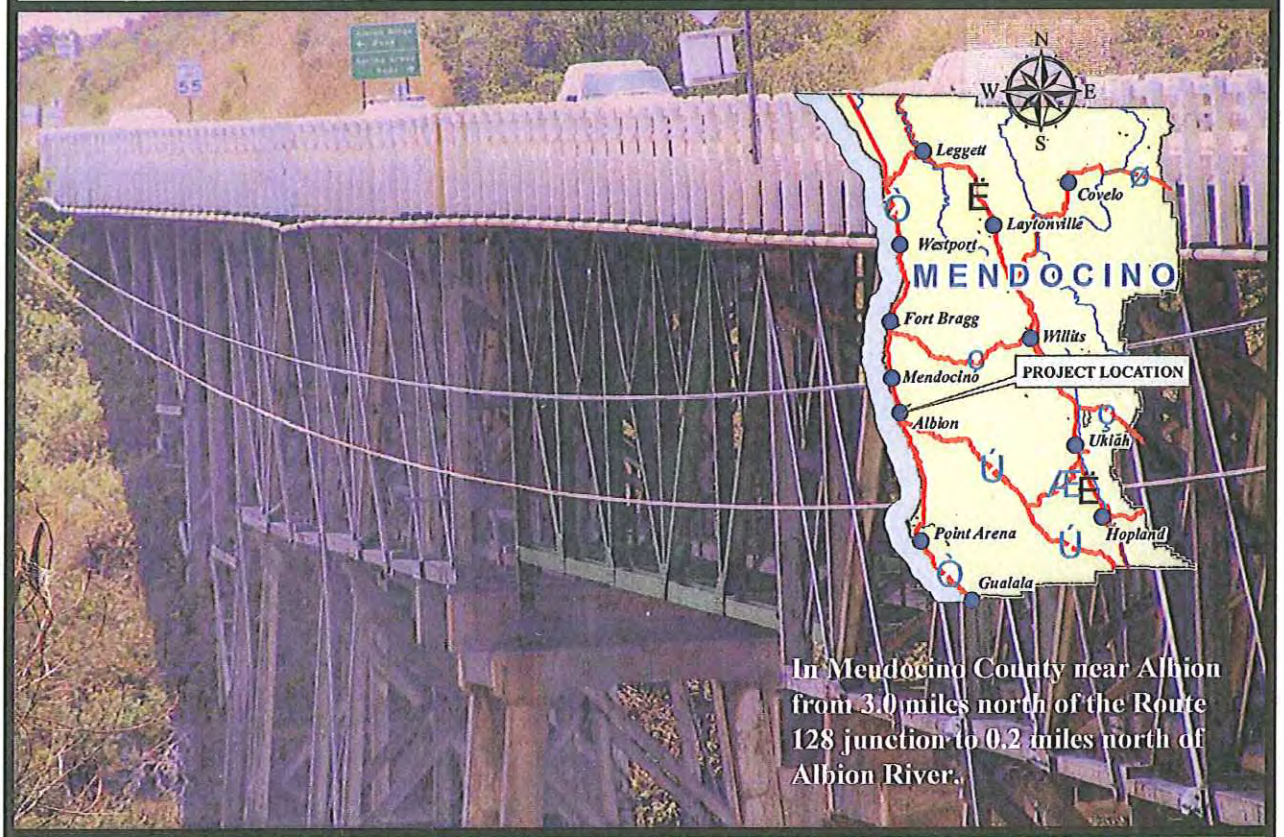
ADVANCE PLANNING

PROJECT STUDY REPORT (BRIDGE REPLACEMENT) To Request Programming in the 2010 SHOPP

01-MEN-1
PM 43.3/44.2
01-40110K
Program 201.110
August 2009



In Mendocino County near Albion from 3.0 miles north of the Route 128 junction to 0.2 miles north of Albion River.

I have reviewed the right of way information contained in this Project Study Report and the R/W Data Sheet attached hereto, and find the data to be complete and accurate:

LINDY K. LEE
NORTH REGION DIVISION CHIEF – RIGHT OF WAY

APPROVAL RECOMMENDED:

GRACE KIM TELL
PROJECT MANAGER

ROYAL McCARTHY
PROGRAM ADVISOR

APPROVED:

CHARLES C. FIELDER
DISTRICT DIRECTOR

August 26, 2009
DATE

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

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

Jeffrey Pimentel, P.E.
Registered Civil Engineer

8/18/09
Date

1. INTRODUCTION

This project proposes to replace the Albion River Bridge (No. 10-0136). There are three alignment alternatives. Each alignment alternative includes multiple structure type options. Alternative 1 would be constructed west of the existing alignment, Alternative 2 would be east of the existing alignment, and Alternative 3 would replace the existing bridge in stages close to the existing alignment. All alternatives consist of construction of a new bridge, asphalt concrete overlay, new structural section off the existing centerline, new structural section at locations where the vertical profile is raised or lowered to accommodate an improved vertical curvature. Retaining walls are proposed at various locations to avoid impacts to property and environmentally sensitive areas.

See the Cost Estimate in Attachment E for specific work items included in this project. It is proposed that this project be funded from the 210.110 Bridge Rehabilitation Program in the 2010 SHOPP cycle as a long lead project. The total cost including right of way is $54,500,000 (2015/2016 fiscal year).

Project Limits (Dist., Co., Rte., PM)	1 - Men -1 - 43.3/44.2
Number of Alternatives:	3 plus the "no-build" alternative
Programmed or Proposed Capital Construction Costs	$50.9 million (2015/2016 fiscal year)
Programmed or Proposed Capital Right of Way Costs:	$3.6 million (2015/2016 fiscal year)
Funding Source:	201.110 Bridge Rehab Program
Type of Facility (conventional, expressway, freeway):	Conventional Highway
Number of Structures:	1
Anticipated Environmental Determination/Document	IS/ND - CEQA EA/FONSI - NEPA
Legal Description	In Mendocino County near Albion from 3.0 miles north of the Route 128 junction to 0.2 miles north of Albion River
Project Category	Bridge Replacement

It is recommended that the cost associated with Alternative 1 (structure type 1A) be programmed into the 2010 SHOPP. A project report will serve as approval of the "selected" alternative.

2. BACKGROUND

The Albion River Bridge Project is located on State Route 1 in Mendocino County, from PM 43.3 to PM 44.2, in Albion, 3.4 miles north of the State Route 128 junction. See Attachment A for a Vicinity Map.

The existing highway facility within the project limits is a two-lane conventional highway and was most recently paved with Open-Graded Asphalt Concrete (OGAC) in 2001. The existing alignment follows the coastline and is curvilinear. The posted speed limit for this two-lane conventional highway is 50 mph. The advisory speed on the structure and for the curve on the north end of the structure is 30 mph. The grade on the bridge is 1.23% and the alignment is located on a tangent. The curve north of the structure has an approximate 275-foot radius (28.5 mph design speed) and a 200-foot length. The close proximity of this curve does not allow for development of standard superelevation transition without modifying the curve.

3. PURPOSE AND NEED STATEMENT

Need:

The Albion River Bridge and approaching alignment have a number of structural and geometric deficiencies. The structure has a Sufficiency Rating of 68.20 percent and the Structure Replacement and Improvement Needs Report (STRAIN) Urgency Factor for replacement is two years.

Purpose:

The purpose of this project is to replace this functionally obsolete and structurally deficient structure with one that will improve geometrics and structural integrity to ensure uninterrupted traffic movements in the event of a vehicular breakdown, seismic event, or other catastrophic failure.

4. EXISTING FACILITY, DEFICIENCIES, AND TRAFFIC DATA

A description of the existing structure and approaching Route 1, along with existing facility deficiencies and traffic data, are included in the following section.

4A. ROADWAY GEOMETRIC INFORMATION

Table 4. A.1. Roadway Geometric Information

Facility	Minimum Project Curve Radius	Through Traffic Lanes			Paved Shoulder Width		Median	Shoulder is a Bicycle Lane	Bicycle Route
		No. of Lanes	Lane Width	Type	Left	Right	Width	(Y/N)	(Y/N)
Existing	275-feet	2	11-12 ft	-	0-4 ft	0-4 ft	N/A	Y	Y
Proposed Alt. 1	1,150-feet	2	12 ft	-	4 ft	4 ft	N/A	Y	Y
Proposed Alt. 2	1,150-feet	2	12 ft	-	4 ft	4 ft	N/A	Y	Y
Proposed Alt. 3	1,150-feet	2	12 ft	-	4 ft	4 ft	N/A	Y	Y
Standard	850-feet	-	12 ft	-	8 ft	8 ft	N/A	Y	Y

The project location is a curvilinear two-lane conventional highway that follows the coastline. Route 1 is functionally classified as a rural minor arterial. Within the project limits lane widths are between 11 and 12 feet, and shoulder widths are between 0 and 4 feet in both directions.

4B. GEOMETRIC DEFICIENCIES

The Albion River Bridge is on the STRAIN Report as Functionally Obsolete due to a non-standard deck width. Also, the radial curve at PM 43.94 does not meet current design standards for superelevation transition length and standards for curvature. The intersecting roads, Albion River North Side Road and Albion Little River Road, do not meet current design standards for corner sight distance. The vertical profile from PM 44.01 to 44.16 does not meet design standards for stopping sight distance.

4C. PEDESTRIAN/NON-MOTORIZED FACILITIES

In accordance with the Americans with Disabilities Act of 1990 (ADA) and Section 4450 of the California Government Code, ADA standards apply to this project and design should adhere to Design Information Bulletin (DIB) 82-03. Appropriate project records should document the fact that necessary review and approvals have been obtained.

Route 1 is legislatively designated as the "Pacific Coast Bike Route". The Route Concept Report for the route identifies a need to provide shoulder widening improvements to accommodate non-motorized traffic within the project area. Route 1

has seasonally high bicycle traffic volumes during the summer months. Most bicycle traffic along this section of Route 1 consists of long-distance touring in the south bound direction.

4D. STRUCTURES INFORMATION

The Albion River Bridge (PM 43.74/43.93) is located on a tangent with a 1.23-percent gradeline sloping north. The structure has a length and width of 969 feet and 26 feet, respectively. The existing 34 span Bridge has 12-foot lanes and 1-foot shoulders. The bridge was built in 1944 and is comprised of timber stringer spans on timber A-frame deck trusses with 11 timber approach spans on timber tower bents at the south end, 22 timber approach spans on timber tower bents at the north end, and a single-span steel riveted steel deck truss on reinforced concrete tower bents over the Albion River. See Table 4.D.1 for more information.

Table 4.D.1. Structural Information

Structure	Net Width			Replace Bridge	Work Identified in STRAIN	Replace Bridge Approach Rail
Name/No.	Existing	Standard	Proposed	(Y or N)	(Y or N)	(Y or N)
No. 10-0136 Albion River Bridge	26 ft	40 ft	54 ft	Y	Y	Y
Structure	Shoulder Width			Proposed Pedestrian Walkway		
Name/No.	Existing	Standard	Proposed	Number	Width	Traffic Barrier
No. 10-0136 Albion River Bridge	1 ft	8 ft	8 ft	2	5 ft	Y

The Douglas Fir wood truss structure incorporates a recycled steel deck truss that spans the main channel. This truss is from an old bridge that had been located on the South Fork of the Feather River, in Butte County, approximately 1.5 miles downstream of Bidwell Bar. However, the age of the steel truss is not known.

See Table 4.D.2 for a list of work performed on the existing structure.

Table 4.D.2. Bridge Projects Overview

Construction Year	Work Performed
1944	Construction
1960	Inspection Walkway
1961	Truss Span Revisions
1978	Repair
1979	Guardrail
1997	AC Surfacing
2001	OGAC Overlay

Both ends of the structure are preceded by north and south-facing Narrow Bridge warning signs. There are two north and south-facing 30 mph warning signs at the north end of the bridge and one south facing 30 mph sign on the structure. The structure is listed on the STRAIN Report, and is identified in the Bridge Inspection Reports as having need of rehabilitation, upgrade, and seismic retrofit. See Attachment F for the most recent Bridge Inspection Report.

4E. STRUCTURAL DEFICIENCIES

The structure is fracture critical due to a lack of redundancy of the steel deck truss and floor beam members and is designated as Functionally Obsolete due to deck geometry. The Peer Review Fact Sheet (dated 08/15/07) recommends stripping the existing paint coat to allow for fracture critical inspection. The cost for this work is not known at this time. The structure currently requires painting every 5 years at an estimated cost of $350,000 for full preparation and paintwork. The structure has deficient rails and they are recommended for replacement at an estimated cost of $1,100,000. However, upgrading the rail to current standards is not feasible without replacing the deck and modifying the superstructure. The cost for the superstructure modification is currently unknown at this time, but would be expected to be significant due to the extra load that would need to be supported by the substructure.

To reduce potential seismic vulnerability, strengthening of the steel truss members will need to be performed at an estimated cost of $1,300,000. Replacement of the bolted connections and hardware throughout the timber sub-structure, and replacement of the top left horizontal timber element located between the number 15 and 16 bents will cost an estimated $1,500,000. Additional work that may be needed to rehabilitate, maintain, and provide geometric improvements is discussed in the Alternatives section.

4F. VEHICLE TRAFFIC DATA AND COLLISION HISTORY

Current and forecasted traffic data for Route 1 from PM 43.34 to 44.01 is listed in Table 4.F.1.

Table 4.F.1. Traffic Data

Annual ADT			
2007	2016	2026	2036
3,100	3,800	4,570	5,350
Peak Hour			
2007	2016	2026	2036
430	530	640	740
20-Year Directional %			60
20-Year DH Truck %			5.0
10-Year TI			8.0
20-Year TI			9.0
10-Year TI (shoulder)			5.0
20-Year TI (shoulder)			5.5

Collision details for Route 1 from PM 43.13 to 44.20 between October 1, 2004 and March 30, 2008 are listed in Table 4.F.2.

Table 4.F.2. Collision Details

Men 1	Total Collisions	Type of Collision			Primary Collision Factors				
		Fatal	Injury	PDO	Speeding	Improper Turn	Other Violations	Failure to Yield	Influence of Alcohol
PM 43.13/44.20	12	0	3	9	5	3	1	2	1

PDO = Property Damage Only *PCF = Primary Collision Factor*

Collision rates for Route 1 from PM 43.13 to 44.20 between October 1, 2004 and March 30, 2008 are listed in Table 4.F.3.

Table 4.F.3. Collision Rates

Men 1	Actual			Average		
	Fatal	F+I	Total	Fatal	F+I	Total
PM 43.13/44.20	0.000	0.82	3.27	0.038	0.75	1.54

F+I = Fatal + Injury *Note: Rates are in collision per million vehicle miles (MVM)*

There have been 12 collisions on this segment of highway 1 over a three-and-a-half year period. The total collision rate for this segment of Route 1 is more than twice the state wide average for similar facilities. Types of collisions include "hit object", "improper turn", "rear end", "broadside", and "overturn". Three of the "hit object" type of collisions occurred at the horizontal curve located at PM 43.95, and involved the vehicle hitting one of the signs located on the outside of the curve.

5. CORRIDOR AND SYSTEM COORDINATION

The Transportation Concept Report (TCP) of September 2003 outlines the Facility Concept, from the Route 128 junction (PM 40.3) to Little River (PM 48.0), and states that this segment should remain a two-lane conventional highway. The Annual Average Daily Traffic (AADT) and Peak Hour Average Daily Traffic is 3,100 and 430, respectively, as of 2007. The Coastal Act and the Local Coastal Plan indicates that the Rehabilitation Strategy for this segment of State Route 1 is to widen the roadway portion of this segment to a 32-foot width.

6. ALTERNATIVES

Project alternatives consist of three "build" alternatives, one rehabilitation alternative and one "no-build" alternative. Table 6.1 summarizes estimated costs for all "build" alternatives.

Table 6.1. Alternative Cost Summary Table *(2015/2016 fiscal year)*

	Alternative 1	Alternative 2	Alternative 3
Total Roadway Items	12.5	14.5	16.0
Total Structure Items*	38.4	33.1	50.1
Subtotal Construction Costs	50.9	47.6	66.1
Total Right of Way Items	3.6	6.1	4.0
Total Project Capital Outlay Costs	54.5	53.7	70.1

**Structure items assumes structure types 1A, 2A, & 3A for Alternatives 1, 2, & 3, respectively*
Note: Costs in millions of dollars

6A. ALTERNATIVE DESCRIPTIONS

The following "build" alternatives are being evaluated to replace the Albion River Bridge. All proposed replacement structures consist of two 12-foot travel lanes, two 8-foot shoulders, and two 5-foot pedestrian walkways (with barrier) on the east and west sides of the structure. Two 4-foot shoulders are proposed for the approach roadway. Typical Sections, Project Layouts, and Structures Advance Planning Studies (APS) are included as Attachments B, C, and D, respectively.

All alternatives consist of ADA improvements, asphalt concrete overlays, new structural section off the existing centerline, new structural section at locations where the vertical profile is raised or lowered to accommodate improved vertical curvature. Details of new structural section are provided in the Preliminary Materials Recommendation and are included as Attachment G.

All alternatives improve the existing two-way left turn pocket storage length at PM 43.40/43.69 from approximately 360 feet to 435 feet as specified by HDM Section 405.2B. In addition, all alternatives provide paved access from the east-side and

west-side pedestrian walkways to the roadway shoulder in compliance with DIB 82-03.

Three culverts are proposed for modification or replacement within project limits. Details of culvert work will be determined during the PA& ED phase of the project. In addition to culvert modification and replacement, the project proposes other drainage improvements which include overside drains, rock slope protection, ditches, ac dikes, and replacement of existing drainage inlet covers. See Table 6.A.1 for locations of potential culvert work.

Table 6. A.1. Existing Culverts - Potential Culvert Work Table

PM	Diameter (in) (existing)	Length (ft) (existing)	Type (existing)
43.36	18	65	RCP
43.73	18	42	RCP
44.03	24	65	RCP

6A1. ALTERNATIVE 1 – WEST ALIGNMENT (1A, 1B, 1C, 1D)

The scope of work for Alternative 1 includes replacement of the Albion River Bridge, one retaining wall, and all the scope indicated in the Alternative Descriptions section. This alignment is located west and clear of of the existing Albion River Bridge. The replacement structure is 1,020 feet long and 139 feet to 151 feet high. This alternative will allow two traffic lanes to remain open during most of the construction.

To the south of the existing structure, the Spring Grove Road (PM 43.50) at-grade intersection will be shifted southwest due to a proposed 2,000-foot horizontal curve between PM 43.36 and 43.62 in the realigned roadway. The potential of shifting the intersection with Spring Grove Road to the south will be reviewed at the next stage of the project in order to improve the skew of the existing intersection. The Albion Ridge Road (PM 43.55) at-grade intersection and driveway access from PM 43.55 to 43.57 will be shifted west.

To the north of the structure, the Albion River North Side Road (PM 43.93) at-grade intersection will be relocated to PM 44.03 to accommodate the replacement structure, and includes proposed metal beam guard rail, and ADA access to the east pedestrian walkway. The Albion Little River Road (PM 43.96) at-grade intersection with Route 1 will be relocated to intersect Albion River North Side Road. The private driveway access at PM 44.00 will be relocated to intersect Albion River North Side Road.

One retaining wall is proposed for this alternative. A 170-foot long, 12-foot high retaining wall is proposed between PM 42.51 and 43.54 on the west side of the roadway to avoid impacts to the adjacent pond located to the north of Spring Grove Road.

Four structure types were proposed for this alignment (1A, 1B, 1C, and 1D) as shown in Table 6.A.1.1.

Table 6. A.1.1. Alternative 1 Structure Summary Table *(2015/2016 fiscal year)*

Alternative	Structure Type	Total Structure Cost (millions of dollars)
1A	4 Span Haunched Cast-in-Place Prestressed Concrete Box Girder	38.4
1B	4 Span Haunched Cast-in-Place Prestressed Concrete Segmental Box Girder	55.0
1C	11-Span Open Spandrel Concrete Arch	32.6
1D	4-Span Open Spandrel Concrete Arch	41.6

Note: Total structure costs includes structure and demolition costs

The total cost for Alternative 1, assuming programming structure 1A, is $54.5 million (2015/2016 fiscal year), which includes $12.5 million for roadway items, $38.4 million for structures items, and $3.6 million for right of way items. A cost estimate for Alternative 1 is included as Attachment E.

6A2. ALTERNATIVE 2 – EAST ALIGNMENT (2A, 2B)

The scope of work for Alternative 2 includes replacement of the Albion River Bridge, three retaining walls, and all the scope indicated in the Alternative Descriptions section. This alignment is located east and clear of the existing Albion River Bridge. The replacement structure is 1,040 feet long and 140 feet to 153 feet high. This alternative will allow two traffic lanes to remain open during most of the construction.

To the south of the existing structure, the Spring Grove Road (PM 43.50) at-grade intersection will be shifted southwest due to a proposed 1,900-foot horizontal curve between PM 43.35 and 43.69 in the realigned roadway. The potential of shifting the intersection with Spring Grove Road to the south will be reviewed at the next stage of the project in order to improve the skew of the existing intersection. The Albion Ridge Road (PM 43.55) at-grade intersection and driveway access from PM 43.55 to 43.57 will be shifted west.

To the north of the structure, the Albion Little River Road (PM 43.96) at-grade intersection will be shifted south due to a proposed 1,150-foot horizontal curve between PM 43.78 and 43.98 in the realigned roadway. The Albion River North

Side Road (PM 43.93) at-grade intersection with Route 1 will be relocated to intersect Albion Little River Road.

Three retaining walls are proposed for this alternative. A 150-foot long, 12-foot high retaining wall is proposed between PM 43.51 and 43.54 on the west side of the roadway to avoid impacts to the adjacent pond located to the north of Spring Grove Road. A 490-foot long, 4-foot to 24-foot high retaining wall is proposed between PM 43.63 and 43.72 on the east side of the roadway to avoid impacts to the adjacent residential structures located on East Lane. A 345-foot long, 4-foot to 30-foot high retaining wall is proposed along the north-east side of Albion River North Side Road to avoid impacts to large trees on the north-east cut slope.

Two structure types were proposed for this alignment (2A and 2B) as shown in Table 6.A.2.1

Table 6. A.2.1. Alternative 1 Structure Summary Table *(2015/2016 fiscal year)*

Alternative	Structure Type	Total Structure Cost (millions of dollars)
2A	3 Span Haunched Cast-in-Place Prestressed Concrete Box Girder	33.1
2B	3 Span Haunched Cast-in-Place Prestressed Concrete Segmental Box Girder	50.9

Note: Total structure costs includes structure and demolition costs

The total cost for Alternative 2, assuming programming structure 2A, is $53.7 million (2015/2016 fiscal year), which includes $14.5 million for roadway items, $33.1 for structures items, and $6.1 million for right of way items. A cost estimate for Alternative 2 is included as Attachment E.

6A3. ALTERNATIVE 3 – WEST ON EXISTING ALIGNMENT (3A, 3B)

The scope of work for Alternative 3 includes replacement of the Albion River Bridge, two retaining walls, and all the scope indicated in the Alternative Descriptions section. This alignment is located somewhat west and on the existing Albion River Bridge. The replacement structure is to be constructed in stages, and is 940 to 943 feet long and 140 feet to 151 feet high. This alternative will require one-way reversible traffic for three seasons for the second stage of construction. The proposed centerline for Alternative 3 is 15 feet offset west at the south end of the structure and parallels the existing bridge alignment before deviating to the west.

To the south of the existing structure, the Spring Grove Road (PM 43.50) at-grade intersection will be shifted southwest due to a proposed 1,950-foot horizontal curve between PM 43.35 and 43.63 in the realigned roadway. The potential of

shifting the intersection with Spring Grove Road to the south will be reviewed at the next stage of the project in order to improve the skew of the existing intersection. The Albion Ridge Road (PM 43.55) at-grade intersection and driveway access at PM 43.55 to 43.57 will be shifted west.

To the north of the structure, the Albion Little River Road (PM 43.96) at-grade intersection will be shifted northwest due to a proposed 1,150-foot horizontal curve between PM 43.87 and 44.03 in the realigned roadway. The Albion River North Side Road (PM 43.93) at-grade intersection with Route 1 will be relocated to intersect Albion Little River Road.

Two retaining walls are proposed for this alternative. A 165-foot long, 12-foot high retaining wall is proposed between PM 43.51 and 43.54 on the west side of the roadway to avoid impacts to the adjacent pond located to the north of Spring Grove Road. A 345-foot long, 4-foot to 30-foot high retaining wall is proposed along the north-east side of Albion River North Side Road to avoid impacts to large trees on the north-east cut slope.

Two structure types were proposed for this alignment (3A and 3B) as shown in Table 6.A.3.1

Table 6. A.3.1. Alternative 1 Structure Summary Table *(2015/2016 fiscal year)*

Alternative	Structure Type	Total Structure Cost (millions of dollars)
3A	4 Span Staged Haunched Cast-in-Place Prestressed Concrete Box Girder	50.1
3B	Staged 4-Span Concrete Arch	58.2
Note: Total structure costs includes structure and demolition costs		

The total cost for Alternative 3, assuming programming structure 3A, is $70.1 million (2015/2016 fiscal year), which includes $16.0 million for roadway items, $50.1 million for structures items, and $4.0 million for right of way items. A cost estimate for Alternative 3 is included as Attachment E.

6A4. FUTURE STUDIES - REHABILITATION

At a public informational meeting on May 7th, 2009 several of those attending indicated a preference for rehabilitating the existing structure on the current alignment rather than replacement on another alignment. At the next phase of the project the design team will review the feasibility, cost, and service life of rehabilitating the existing structure as compared to the cost constructing a new bridge. Non-redundancy of the existing structure will pose a challenge for the design team when reviewing the feasibility of rehabilitating the existing structure.

6A5. NO BUILD ALTERNATIVE

The "no build" alternative was also considered, but did not meet the purpose and need of the project.

6B. DESIGN EXCEPTIONS

The following mandatory design exceptions have been executed:

- Shoulder widths (DIB 79-03) between PM 43.3 and 44.2
- Stopping Sight Distance (Section 201.1 – Table 201.1) at PM 44.01/44.02 and 44.09/44.12

6C. AGENCY INVOLVEMENT

Various permits and approvals will be necessary after Project Approval and Environmental Document (PA&ED), and will likely involve California Department of Fish and Game (1602 Streambed Alteration Agreement), U. S. Army Corps of Engineers (Section 404), California Regional Water Quality Control Board (Section 401), California State Coastal Commission Development Permit, and a Section 106 consultation with the State Historic Preservation Office. The County of Mendocino will need to be involved with the project as it relates to reconstruction and overlay of Albion River North Side Road and Albion Little River Road.

6D. HAZARDOUS WASTE

A November 14, 2008 Initial Site Assessment (ISA) indicates that a Preliminary Site Investigation (PSI) including a structural survey will be required for the existing structure. See Attachment H for a copy of the ISA. It is estimated that it will take 3 to 5 months to complete the site investigation and prepare the final report. The final report should be completed during the PA&ED phase of the project.

6E. GEOTECHNICAL

The Office of Geotechnical Design North evaluated the site conditions and geology on November 24, 2008, which included review of the As-Built Plans, Bridge Inspection Reports, available geologic literature mapping, the Geotechnical Design bridge file, and Log of Test Borings (LOTBs).

The site consists of sandstone, shale, and conglomerate sedimentary rocks. Ground water is expected to be at river level and may fluctuate due to seasonal fluctuations and tidal influence. The potential for surface rupture at the site due to fault movement of the controlling San Andreas/North fault, located about 5.7 miles

southwest of the site, is insignificant as there are no known faults projecting towards or passing directly through the project site. There is a moderate to high liquefaction potential in the upper loose granular layers during a seismic event. Peak Bedrock Acceleration is estimated at 0.5g. A future subsurface investigation will need to be performed prior to final seismic design recommendations, which should be requested by the Office of Bridge Design North during the PA&ED phase of the project.

6E1. VERTICAL BRIDGE SUPPORT PILING RECOMMENDATIONS

Cast-In Steel Shell (CISS) piles with rock sockets are preliminarily recommended for the bents/piers in deep alluvial/marine deposit areas. Cast-In Drill Hole (CIDH) piles at the bent/piers are primarily recommended in shallow soil areas. Driven pipe or H-piles may be preliminarily considered on slopes in deep soil areas.

6E2. ARCHED BRIDGE SUPPORT PILING RECOMMENDATIONS

Inclined mined shafts are preliminarily recommended as an alternate to support the arch span. For vertical supported spans with an arch span, the piles noted in section 6F1 are preliminarily recommended.

6E3. ABUTMENT PILING RECOMMENDATIONS

At the abutments for both structure types, 24-inch CIDH piles are preliminarily recommended in hard soil or shallow bedrock areas. Alternative W-pipe piles or H-piles may be used depending on the strength and depth of soils discovered during a subsequent subsurface investigation.

Final foundation recommendations for the bridge will require a field investigation. The bridge site for the proposed west-side alternatives locate new north abutments closer to active surficial sliding occurring on the west slope. A slope stability evaluation is recommended below the proposed bridge abutments.

6F. DISPOSAL SITE AND IMPORTED BORROW DISPOSAL

Material disposal is anticipated for all "build" alternatives. One optional disposal site that could be used for excess project material is the Beacon disposal site located on Route 1 at PM 33.8.

6G. HIGHWAY PLANTING

The Landscape Architectural Assessment Sheet (LAAS) prepared for this project indicates that revegetation is required, and highway planting is not warranted (see Attachment I). The LAAS recommends highway aesthetic treatment and will require further evaluations during PA&ED.

6H. STORM WATER COMPLIANCE

A Storm Water Data Report has been prepared for this project and is included in Attachment J. The disturbed areas will be primarily from the road access and construction equipment pad, excavation for bridge pier footings and abutments, removal of existing bridge pier footings and abutments, and roadway fill and excavation. This project is not located within an urban MS4 area.

The Albion River is 303(d) listed for sediment. The North Coast Regional Water Quality Control Board has jurisdiction in the project area. Given that the project will increase the impervious surface in the project area, treatment best management practices (BMPs) will be required to address pollutant loading and hydromodification. Environmental recommends that scuppers be eliminated from the bridge if at all possible, if not, the scuppers should drain to land rather than the active channel. Off site treatment could be required if treatment BMPs are not feasible on site. The need for additional Right of Way should be evaluated early during project development so that there is adequate space for incorporation of treatment BMPs. If Caltrans is unable to commit to placement of treatment BMPs during the PA/ED phase, the additional sources of polluted runoff should be identified as an impact that would require mitigation to a less than significant level. A water quality study should be prepared.

6I. PRELIMINARY FLOODPLAIN ANALYSIS

On November 18, 2008, a Floodplain Analysis and Floodplain Evaluation Report Summary (FERS) was prepared for the proposed project. The project is located in FEMA Designated Zone A with a 1% annual chance of flooding except for the bridge abutments, which are located in Zone C, "Areas of minimal flooding".

The total increased impervious surface area within project limits ranges from 1.3 acres to 2.1 acres. The maximum increase of impervious surface area is 0.008% of the total Albion River watershed area. Thus, it is not anticipated that the project will impact the 100 year floodplain. Once the final bridge design is complete, further evaluation of the existing and proposed in-water structures should be performed to determine if the 100-year floodplain will be affected by the project.

6J. RIGHT OF WAY

A Right of Way Data Sheet was prepared for the project and is included in Attachment K. See Table 6.K.1 for a summary of Right of Way item costs for all "build" alternatives.

Table 6. K.1. Right of Way Item Summary Table *(2015/2016 fiscal year)*

Right of Way Item	Right of Way Item Cost		
	Alternative 1	Alternative 2	Alternative 3
Acquisition (Including Excess Lands)	$1,176,153	$3,554,748	$1,554,139
Mitigation Acquisition & Credits	$2,416,814	$2,417,460	$2,417,460
Project Development Permit Fees	$12,501	$12,504	$12,504
Utility Relocation (State Share)	0	0	0
Relocation Assistance (RAP)	0	$3,473	0
Clearance/Demolition	0	$27,787	0
Title and Escrow Fees	$15,765	$14,866	$14,658
Construction Contract Work	0	0	0
Total	$3.6 million	$6.1 million	$4.0 million

Demolition of the campground manager's residential structure is necessary for an east-side alignment scenario. Relocation of the Albion River Campground manager will be required for Alternative 2.

Right of Way lead time will require a minimum of 17 months after submitting appraisal maps, utility conflict maps, and the necessary environmental clearance has been obtained. In addition, a minimum of 14 months will be required after submitting the last appraisal map for certification.

6K. UTILITY INVOLVEMENT

Overhead electrical and telephone lines/poles are in conflict with this project. Utility relocation will be required and the proposed location of utilities is alternative dependant. PG&E notes that acquisition of additional land rights will need to be executed for relocation of utility facilities. See Table 6.L.1 for a list of potential conflicting utilities for all "build" alternatives.

Table 6. L.1. Potential Conflicting Utilities					
Type	PM	Offset	Alt 1	Alt 2	Alt 3
Lines/Pole	43.49	LT	X	X	X
Lines/Pole	43.56	LT	X	X	X
Lines/Pole	43.67	RT		X	X
Lines/Pole	43.70	RT		X	X
Lines/Pole	43.75	RT		X	
Lines/Pole	43.93	RT	X	X	X
Lines/Pole	43.95	RT	X	X	
Lines/Pole	43.99	RT	X	X	X
Lines/Pole	44.03	RT	X	X	X
Lines/Pole	44.07	RT	X	X	X
Lines/Pole	44.10	RT	X	X	X
Lines/Pole	44.13	RT	X	X	X

6L. SALVAGING AND RECYCLING OF HARDWARE AND OTHER NON-RENEWABLE RESOURCES

Measures to salvage and recycle materials will be determined during the PS&E phase of this project. Possible items for salvage include drainage grates, corrugated steel pipe (CSP), and metal beam guardrail (MBGR) materials.

6M. RECYCLED MATERIALS

No asphalt recycling is planned for this project. See Attachment G for a copy of the Preliminary Materials Recommendation.

6N. CONSEQUENCES OF THE NO-BUILD OPTION

In the event the "no-build" alternative is chosen the existing structure will continue to deteriorate and no geometric improvement would be made.

6O. COMMUNITY INVOLVEMENT

A public informational meeting was held on May 7, 2009 in the town of Mendocino, CA. Public comments from the meeting are summarized below.

The public wishes to keep the existing bridge for the following reasons: historical significance, for use as a pedestrian/bike facility, for possible incorporation into the California Coastal Trail, and for future train use. Some members of the public prefer to upgrade and rehabilitate the existing structure, which includes the following items: widen bridge to include pedestrian/bike facility and only replace the steel main span.

If replacement is necessary, the majority of the local community desires a west-side alternative to minimize visual impacts and impacts to residential property. The public prefers an arched structure type.

Locals are concerned that traffic handling could affect their mobility. The community suggested one-way traffic control should be maintained at all times or construction of a temporary detour bridge across the channel should be used during construction.

The community is concerned with the safety of the existing alignment and made the following comments: reduce the 50 mph speed limit, remove the south-facing 50 mph sign at PM 43.72, and relocate the 30 mph advisory sign on existing bridge at PM 43.82 to provide more advance notice of approaching curve.

7. TRAFFIC MANAGEMENT AND CONSTRUCTION STAGING

A Transportation Management Plan [April 1, 2009 (TMP)] was prepared for this project. See Attachment L for a copy of the TMP. One-way traffic control shall be in accordance with the Caltrans Standard Plan T-13. The TMP indicates that a minimum 14-foot-wide roadway to accommodate vehicular traffic is required at all times. Bicycles shall be accommodated through the work zone by providing a 4-foot paved shoulder. The District Permits Engineer shall be notified by the Resident Engineer upon receipt of notice that the roadway width for direction of travel will be less than 16 feet.

Traffic control measures in the California Manual on Uniform Traffic Control Devices (MUTCD 6D) shall be incorporated to accommodate disabled pedestrians through the work zone. The maximum length of one-way traffic control closure is 2,500 feet.

The construction durations for Alternatives 1 (west) and 2 (east) are anticipated to be three seasons, which is comprised of two seasons for construction of the replacement structure and one season for demolition of the existing structure. The construction duration for Alternative 3 (west on existing alignment) is anticipated to be five seasons, which is comprised of two seasons for construction of half of the replacement structure, one season for demolition of the existing structure, and two seasons for construction of the remaining half of the replacement structure. Three seasons of one-way traffic control is anticipated for Alternative 3.

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

In order to identify environmental issues, constraints, costs and resource needs, a Preliminary Environmental Analysis Report (PEAR) was prepared for the project (see Attachment M for a copy). Preliminary studies consisted of field surveys and a review of records and databases. Based on current information, it is anticipated that the environmental document is an Initial Study/Negative Declaration pursuant to the California Environmental Quality Act (CEQA) and a Routine Environmental

Assessment/Finding of No Significant Impact (FONSI) pursuant to the National Environmental Policy Act (NEPA).

8A1. CULTURAL RESOURCES

The area has a high sensitivity for archaeological resources. If it is determined that buried cultural resources are likely; a phase II evaluation is required, which would take between 18 months to three years. A Phase III data recovery will be required before construction.

All of the alternatives will impact the historic bridge. A "finding of effects" document will be submitted to the State Historic Preservation Office (SHPO) This will require consultation with the SHPO, which could take from one to two years. The possible need for a Memorandum of Agreement could add from 12 to 18 months. Since the bridge is historic, it is a 4(f) resource. A 4(f) evaluation and coordination with the SHPO is required, which could take from 12 to 18 months.

8A2. NATURAL RESOURCES

Field survey schedules to identify special status plants should be determined based on the known blooming periods of these species. Surveys to determine the presence of nesting birds and bats should be conducted during the nesting season (February 15 through August 31). Section 7 consultation is required for federally Threatened and Endangered species, consultation could take up to one year or more to complete.

The delineation of wetlands and other waters should be conducted in the spring. Additionally, impacts to the jurisdictional wetlands or waters of the U.S. existing within the project area will need to be quantified and a Wetland Delineation Report will need to be prepared. Permits from the U.S. Army Corps of Engineers and the Regional Water Quality Control Board will be required for any impacts to jurisdictional areas. It is anticipated that these permits will take 9-16 months to obtain.

The delineation of coastal wetlands should be conducted in the spring concurrently with the delineation of wetlands and waters of the U.S. These impacts will need to be quantified and addressed in the California Coastal Development Permit. Additional mitigation may be required under the California Coastal Act.

8A3. NATURAL RESOURCES

The visual quality along the existing alignment is highly scenic and the final project design should minimize the effect on the visual setting. This section of

Route 1 has been found 'Eligible' for scenic highway designation on the California Scenic Highway System.

8A4. PERMITS TO ENTER

Permission to enter properties will be necessary.

9. FUNDING

9A. COST ESTIMATE

It is proposed that this project be funded from the 210.110 Bridge Rehabilitation Program in the 2010 SHOPP cycle as a long lead project. Additional alternatives may be added in the next phase of the project, and no alternative has been selected. However, Alternative 1 (west) incorporating structure type 1A will be used for programming purposes. A cost estimate for each alternative is included as Attachment E.

9B. PROJECT SUPPORT

A Programming Sheet has been prepared for this project and is included as Attachment N.

9C. PROJECT SCHEDULE

HQ Milestones	Delivery Date
Begin Environmental	10/01/10
Circulate DED	10/01/13
PA & ED	02/01/14
Project PS&E	12/01/15
Right of Way Certification	04/01/16
Ready to List	04/15/16
Approve Contract	10/01/16
Contract Acceptance	11/01/19
End Project	11/01/19

10. FHWA COORDINATION

No FHWA action is required for this project.

11. VALUE ANALYSIS

Since the construction plus support cost for this project exceeds $25 million, a Value Analysis will need to be performed for this project during the PA&ED phase

12. FIELD REVIEW ROSTER

NAME	UNIT	TELEPHONE	DATES
Jeffrey Pimentel	Advance Planning	(707) 445-6358	Jan. 2009
Valency Langtry	Advance Planning	(707) 445-5208	July 2008
Johnathon Jackson	Advance Planning	(707) 441-2059	July 2008 & Jan. 2009
Fernando Manzanera	Hydraulics	(707) 445-5322	Oct. 2008
Kevin Harper	HQ Structures	(916) 227-8156	May 2009

13. PROJECT REVIEWS

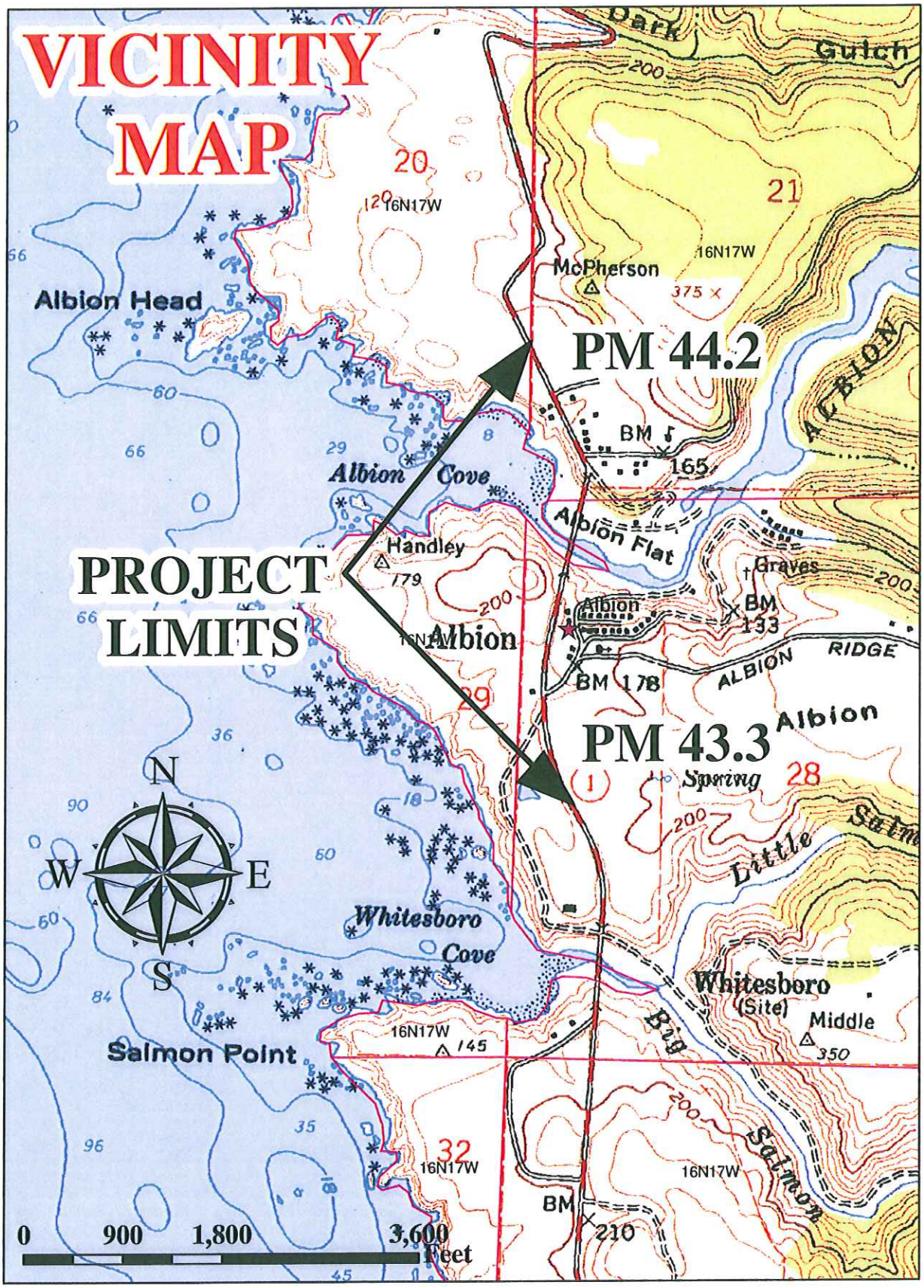
D1 - 201.110 Program Advisor	Takako Fujioka	Date	6/24/09
D1 - Traffic Safety Review	Nicole Braafladt	Date	6/24/09
D1 - Safety Review	Steven Hughes	Date	6/24/09
District Maintenance	Curtis Coburn	Date	6/24/09
NR - Constructability Review	Heidi Quintrell	Date	6/24/09
HQ - Design & Local Programs	J. Steele/H. Sykes	Date	6/24/09
HQ - Structures	Steve Wiman	Date	6/24/09

14. ATTACHMENTS

A. Vicinity Map
B. Typical Sections
C. Project Layouts
D. Structure Advance Planning Study (APS)
E. Cost Estimate
F. Bridge Inspection Report
G. Preliminary Materials Recommendation
H. Initial Site Assessment (ISA)
I. Landscape Architectural Assessment Sheet (LAAS)
J. Storm Water Data Report
K. Right of Way Data Sheet
L. Transportation Management Plan (TMP)
M. Preliminary Environmental Assessment Report (PEAR)
N. Programming Sheet

ATTACHMENT A

VICINITY MAP


VICINITY MAP
PM 44.2
PM 43.3
PROJECT LIMITS
Albion Head
Albion Cove
Albion Flat
Albion
Whitesboro Cove
Salmon Point
Whitesboro (Site)
McPherson
Handley
Graves
Spring
Middle
ALBION RIDGE
Little Salmon
Big Salmon
Dark Gulch
16N17W
N
S
E
W
0 900 1,800 3,600 Feet

ATTACHMENT B

TYPICAL SECTIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	1	43.3/44.2	1	4

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

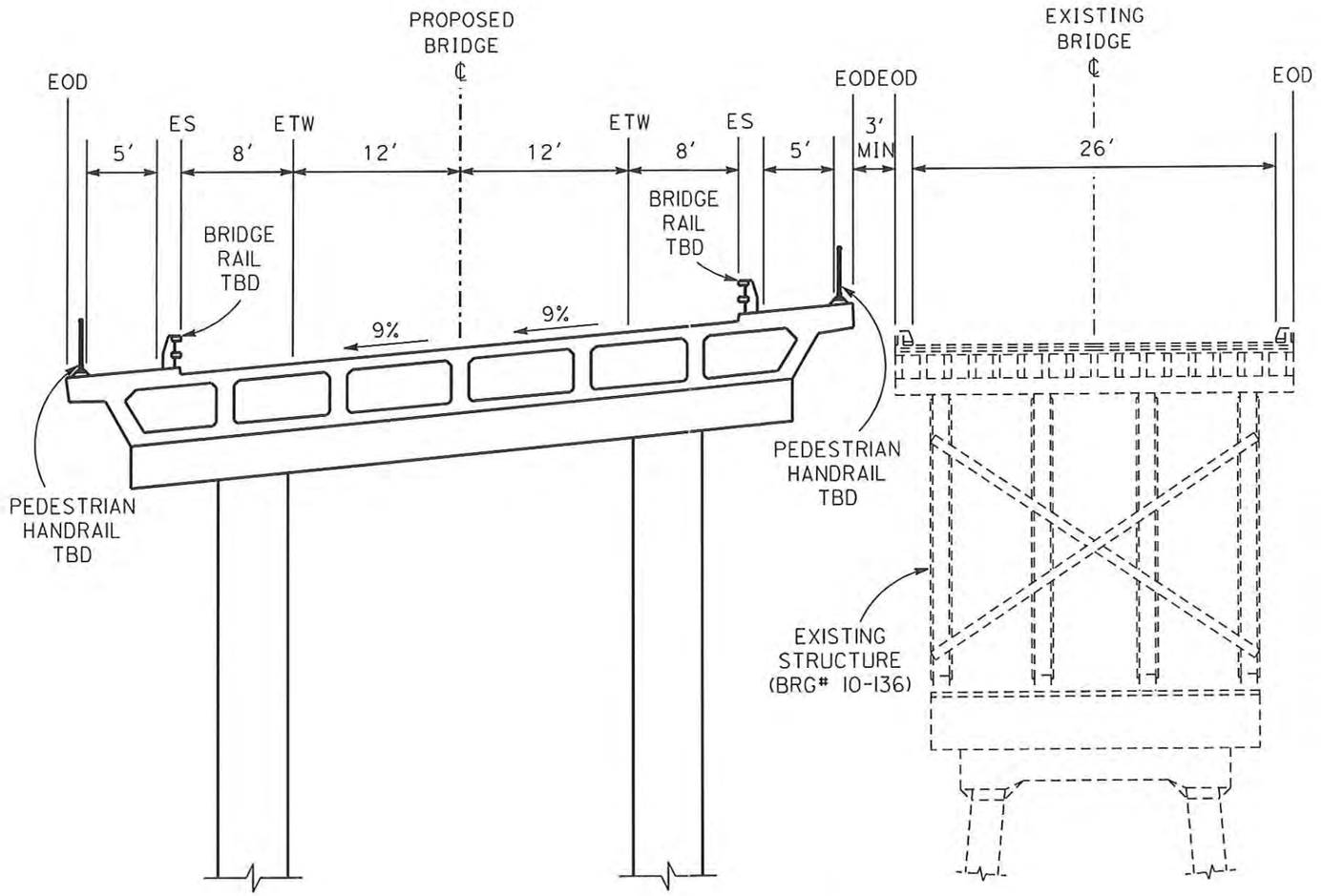
REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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

ALTERNATIVE 1

01-40110K-MEN-1 PM 43.3/44.2

ALBION RIVER BRIDGE REPLACEMENT



EOD = EDGE OF DECK

NO SCALE

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

PROPOSED BRIDGE SECTION FOR ALTERNATIVES 1 AT MAXIMUM SUPERELEVATION (PEDESTRIAN WALKWAY ON EAST AND WEST SIDE)

STRUCTURE TYPICAL SECTION

FOR PLANNING PURPOSES ONLY

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	1	43.3/44.2	2	4

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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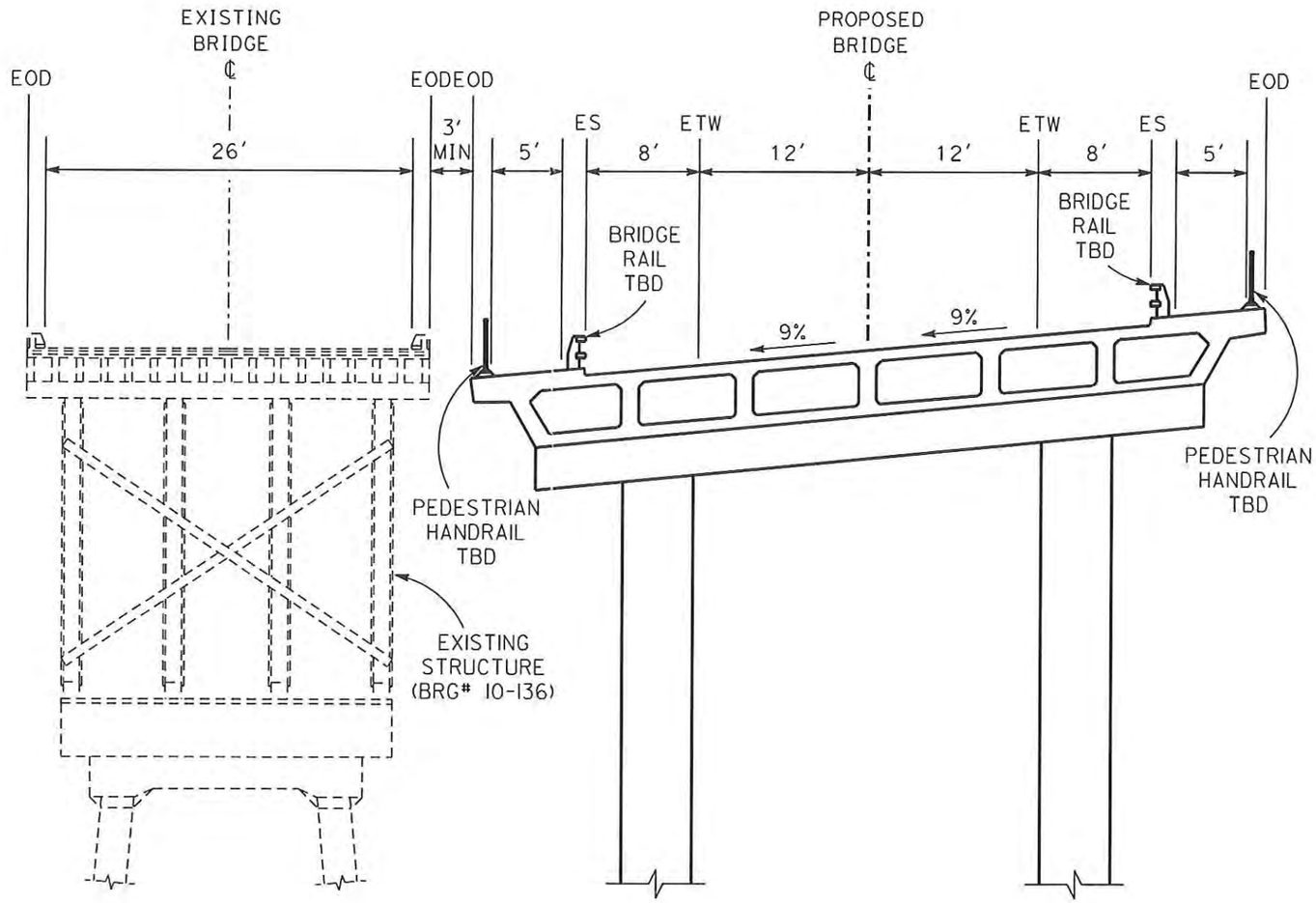
ALTERNATIVE 2

01-40110K-MEN-1 PM 43.3/44.2

ALBION RIVER BRIDGE REPLACEMENT



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ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

EOD = EDGE OF DECK

PROPOSED BRIDGE SECTION FOR ALTERNATIVE 2 AT MAXIMUM SUPERELEVATION (PEDESTRIAN WALKWAY ON EAST AND WEST SIDE)

STRUCTURE TYPICAL SECTION

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	1	43.3/44.2	3	4

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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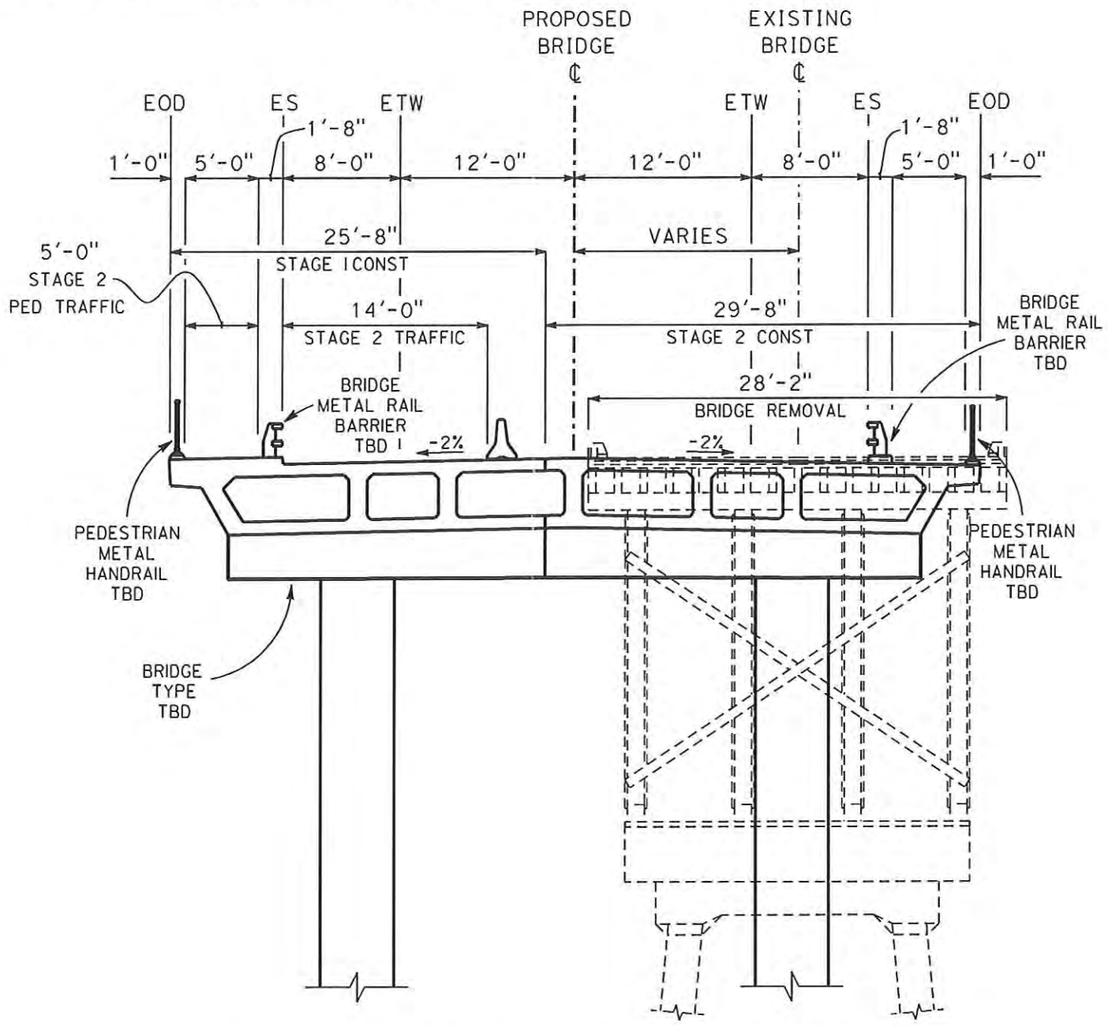
ALTERNATIVE 3

01-40110K-MEN-1 PM 43.3/44.2

ALBION RIVER BRIDGE REPLACEMENT



EOD = EDGE OF DECK

NO SCALE

ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SHOWN

PROPOSED BRIDGE SECTION FOR ALTERNATIVE 3
(PEDESTRIAN WALKWAY ON EAST AND WEST SIDE)

STRUCTURE TYPICAL SECTION

FOR PLANNING PURPOSES ONLY

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FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	1	43.3/44.2	4	4

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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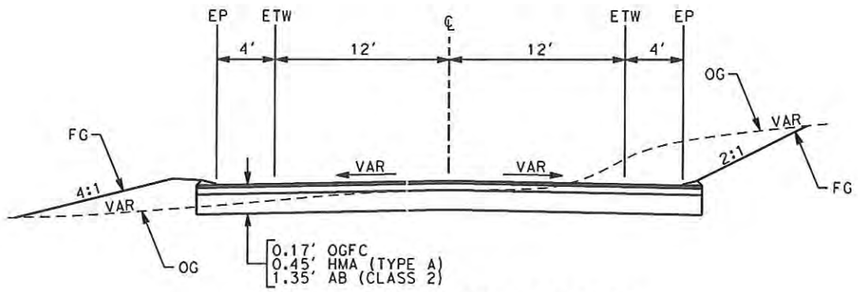
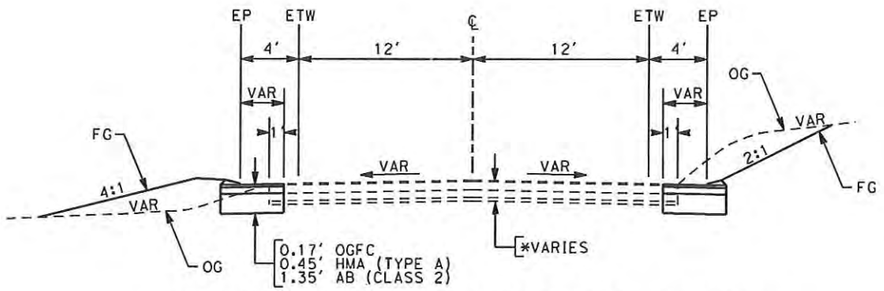
ALTERNATIVES 1 - 3
01-40110K-MEN-1 PM 43.3/44.2
ALBION RIVER BRIDGE REPLACEMENT



SR 1 (NEW ROAD SECTION)



SR 1 (WIDENING OF EXISTING ROAD SECTION)

***PM 43.30/43.63**

LT LANE	RT LANE
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0.68' AC	0.55' AC
0.50' CTB	0.45' AB
0.25' AB	0.65' AS

***PM 43.63/43.74**

LT LANE	RT LANE
0.08' OGAC	0.08' OGAC
0.42' AC	0.55' AC
1.25' AB	0.45' AB
	0.65' AS

***PM 43.03/44.10**

LT/RT LANE

0.08' OGAC
0.33' AC
0.50'-0.75' AB

NO SCALE

ALL DIMENSIONS ARE IN FEET
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ROADWAY TYPICAL SECTION

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ATTACHMENT C

PROJECT LAYOUTS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
1	MEN	1	43.3 / 44.2	1	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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ALTERNATIVE 1
01-40110K-MEN-1 PM 43.3/44.2
ALBION RIVER BRIDGE REPLACEMENT

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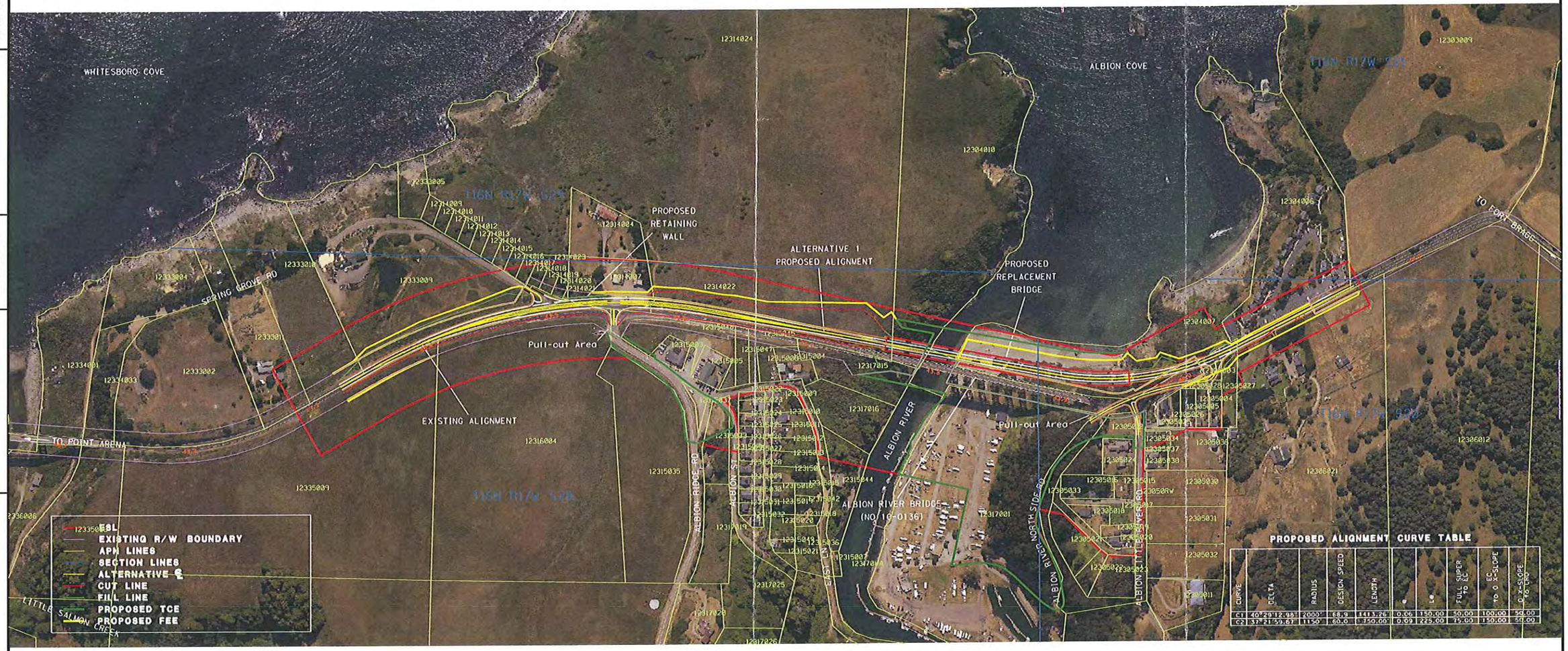

PROPOSED ALIGNMENT CURVE TABLE

CURVE	DELTA	RADIUS	DESIGN SPEED	LENGTH	e	Le	FULL SUPER TO EC	EC TO 0 %-SLOPE	0 %-SLOPE TO SCP
C1	40°29'12.98"	2000'	68.9	1413.26	0.06	150.00	50.00	100.00	50.00
C2	37°21'59.67"	1150'	60.0	750.00	0.09	225.00	75.00	150.00	50.00

DESIGN STUDY ONLY

PROJECT LAYOUTS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

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ALTERNATIVE 2
01-40110K-MEN-1 PM 43.3/44.2
ALBION RIVER BRIDGE REPLACEMENT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
1	MEN	1	43.3 / 44.2	2	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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PROPOSED ALIGNMENT CURVE TABLE

CURVE	DELTA	RADIUS	DESIGN SPEED	LENGTH	e	Le	FULL SUPER to EC	EC to O X-SLOPE	O X-SLOPE to CRO
C1	54°26'46.03"	1900'	67.9	1805.05'	0.06	150.00	50.00	100.00	50.00
C2	51°59'51.04"	1150'	60.0	1043.66'	0.09	225.00	75.00	150.00	50.00

DESIGN STUDY ONLY

PROJECT LAYOUTS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FUNCTIONAL SUPERVISOR

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DATE REVISED

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
1	MEN	1	43.3 / 44.2	3	3

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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ALTERNATIVE 3

01-40110K-MEN-1 PM 43.3/44.2

ALBION RIVER BRIDGE REPLACEMENT

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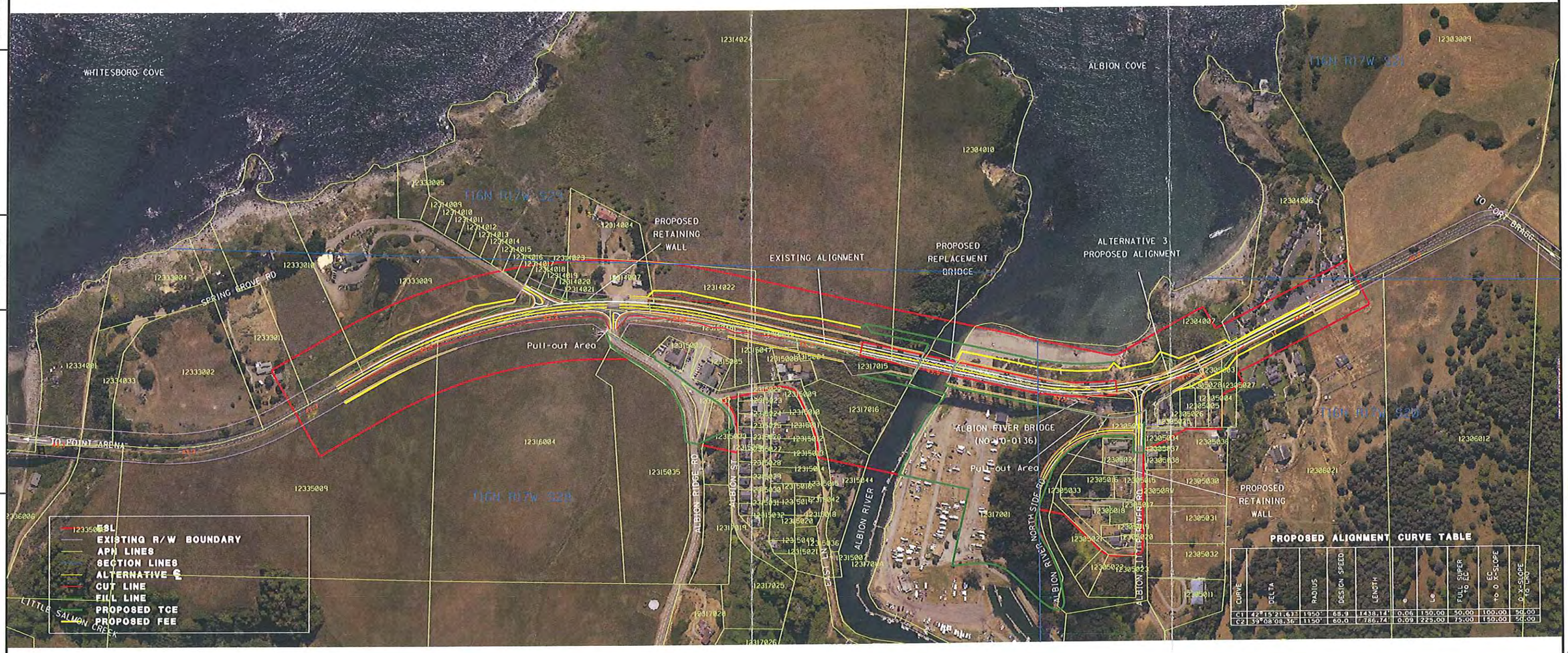

PROPOSED ALIGNMENT CURVE TABLE

CURVE	DELTA	RADIUS	DESIGN SPEED	LENGTH	e	Le	FULL SUPER TO ℄	EC TO 0 X-SLOPE	0 X-SLOPE TO LNO
c1	42°15'21.63"	1950'	68.9	1438.14'	0.06	150.00	50.00	100.00	50.00
c2	39°08'08.36"	1150'	60.0	786.74'	0.09	225.00	75.00	150.00	50.00

DESIGN STUDY ONLY

PROJECT LAYOUTS

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY | FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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ATTACHMENT D

ADVANCE PLANNING STUDY (APS)

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: ILENE POINDEXTER
ADVANCE PLANNING
DISTRICT 1

Date: April 27, 2009

File: 01-MEN-1-43.3/44.1
0216 40110K
Albion River Br. #10-0136
201.110 Bridge Replacement

From: JEFF SIMS 4/27/09
Bridge Design Branch 1
Office of Bridge Design North
Structure Design
Division of Engineering Services MS 9-4/8I

Subject: Advance Planning Study Transmittal

Attached are two copies of the Advance Planning Study for the above referenced project as submitted to the Division of Engineering Services by your initial Request Memo dated September 30, 2008 for alignment alternatives 1 and 2, and February 11, 2009 for alignment alternative 3.

The estimated construction costs, including 10% mobilization and 25% contingencies, for the Albion River Bridge replacement alternatives are as follows:

Bridge Alternative	Estimated Cost	Estimated Working Days
1A	$30,747,400	240
1B	$44,456,200	260
1C	$25,914,800	240
1D	$33,372,400	250
2A	$26,378,000	260
2B	$41,060,900	280
3A	$40,371,700	510
3B	$47,055,700	550

The estimated costs above do not include the cost of removing the existing bridge, which is estimated at $1,017,400.

The estimated costs above also do not include the cost of temporary railing.

This Advance Planning Study and associated cost estimate is based on the following assumptions:

1. Abutments are supported on multiple 24"diameter Cast-In-Drilled-Hole (CIDH) Concrete Piles (service state compression = 90 kip/pile, Length = 60 ft/pile)

2. Pier footings are supported on multiple 36"diameter Cast-In-Steel Shell (CISS) Concrete Piles (service state compression = 400 kip/pile, Length = 100 ft/pile) for the box girder options on alternatives 1 & 2, and 5'-0" diameter CISS concrete piles (service state compression = 3600 kip/pile) for alternative 3A.

3. For the Arch bridge options, the foundation rock voids and fracture density are assumed to be low enough that ground water can be controlled in the mined shaft excavations. Further exploration will be required by Geotechnical Services to determine if this assumption is valid.

4. The Deck drainage between the ST-10 traffic barriers is carried in pipes with assumed outlet locations shown on the plan sheets. Drainage of the sidewalk area is assumed to be by scuppers on the left sidewalk and drop-through drains on the right sidewalk. On the two segmental bridge alternatives (Alt 1B and Alt 2B) the only locations where deck drains can fit are at the closures and end portion of span 3 that is cast on falsework. On alternative 1B we were unable to keep the drainage flow from encroaching approximately 6 inches into the lane. If this is not acceptable, possible solutions could be to use scuppers, change the profile grade, or use a wider shoulder.

5. The working day estimates are considered to be a preliminary level of accuracy and without regard to specific information related to construction scheduling, procurement of material, permits, environmental constraints, or specific seasonal work. Standard 8 hours/day, and 5-day weeks are assumed.

If you have any questions or if you need additional information regarding this study, please contact Kevin Harper at (916) 227-8156 or Jeff Sims at (916) 227- 8497.

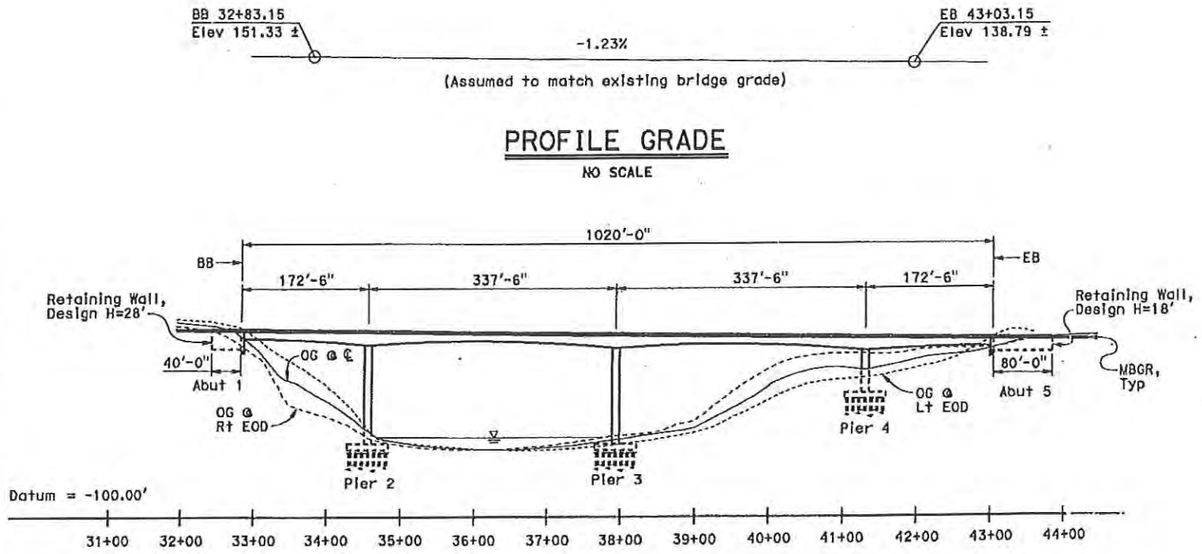
Attachments

c: ETaddese, Project Coordination Engineer MS 9-5/11G
KHolden, Bridge Design Office Chief MS 9-4/11G
SWiman, Technical Liaison Engineer MS 9-1/5C FM2
JChavez, Structure Aesthetics Branch Chief MS 9-3/1H
PWhitfield, Structure Maintenance & Investigations MS 9-1/9I
KWall, HA21 Program Coordinator MS 9-1/9I
JBabcock, Structure Construction Assistant Deputy Division Chief MS 9-2/11H
RBibbens, Geotechnical Services MS 5
SNg, Structure Hydraulics & Hydrology MS 9-1/2I

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov

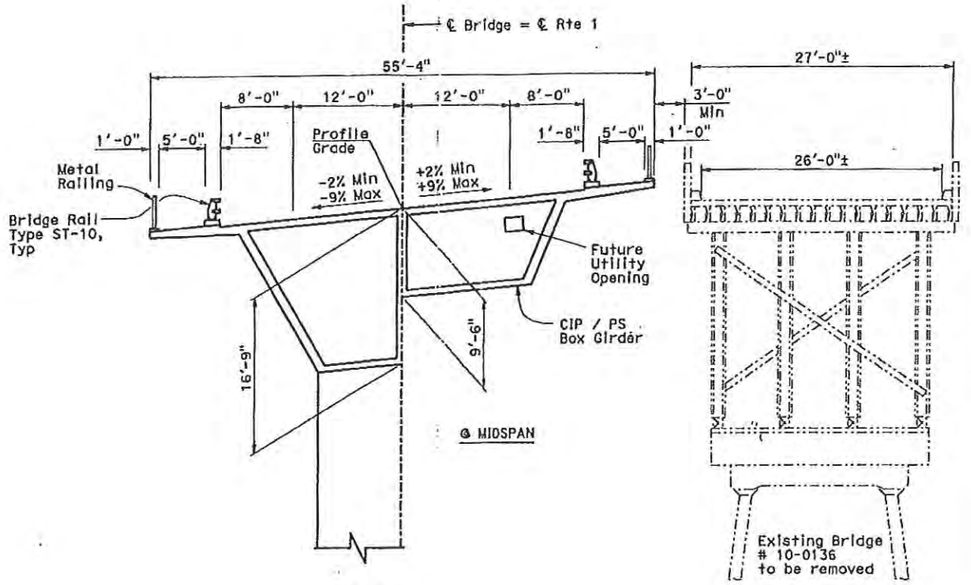


PROFILE GRADE

NO SCALE

DEVELOPED ELEVATION

1" = 200'



TYPICAL SECTION

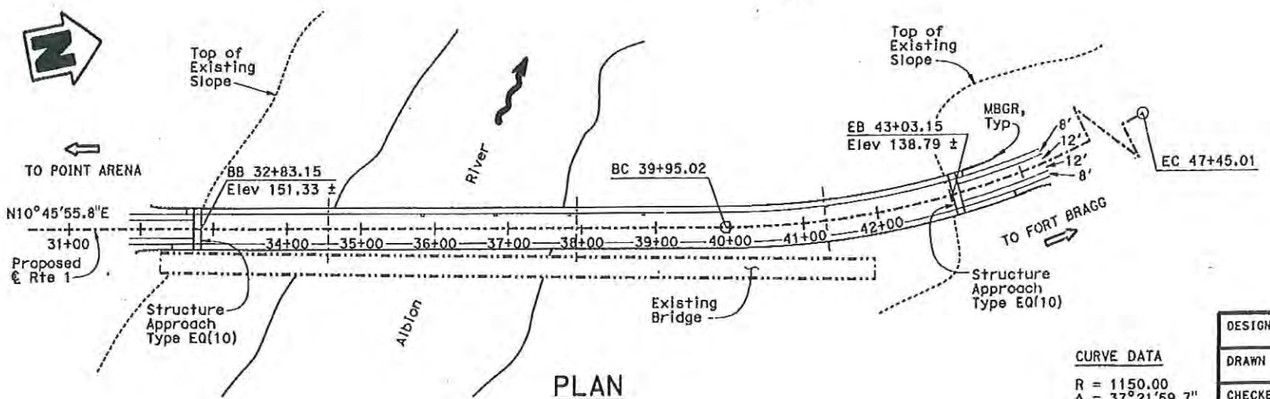
1/16" = 1'-0"

Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Traveled way deck drainage carried through Abutment 5. Sidewalk drainage utilizes scuppers and drop-through Drains
4. Seal course concrete and Type A Excavation assumed @ Piers 2 & 3

Legend:

- ····· Indicates Existing Structure
- ▫ Indicates Deck Drain Type D-3 (traveled way drainage system)



PLAN

1" = 200'

CURVE DATA

R = 1150.00
Δ = 37°21'59.7"
T = 388.88
L = 750.00

Date of Estimate	4/23/09
Str. Depth	Varies
Length	1020 ft
Width	55'-4"
Area	56,440 ft²
Cost/sq ft including	
10% Mobilization &	$544.78
25% Contingency	$30,747,365
Total Cost	

DESIGNED BY	Daniel Sessions	DATE	12/30/08
DRAWN BY	Bob Huddleston	DATE	12/30/08
CHECKED BY	Kevin Harper	DATE	2/4/09
APPROVED	Jeff Sims	DATE	2/4/09

STRUCTURE DESIGN BRANCH 1

ALTERNATIVE 1A

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

FILE => albion_river_opsia.dgn

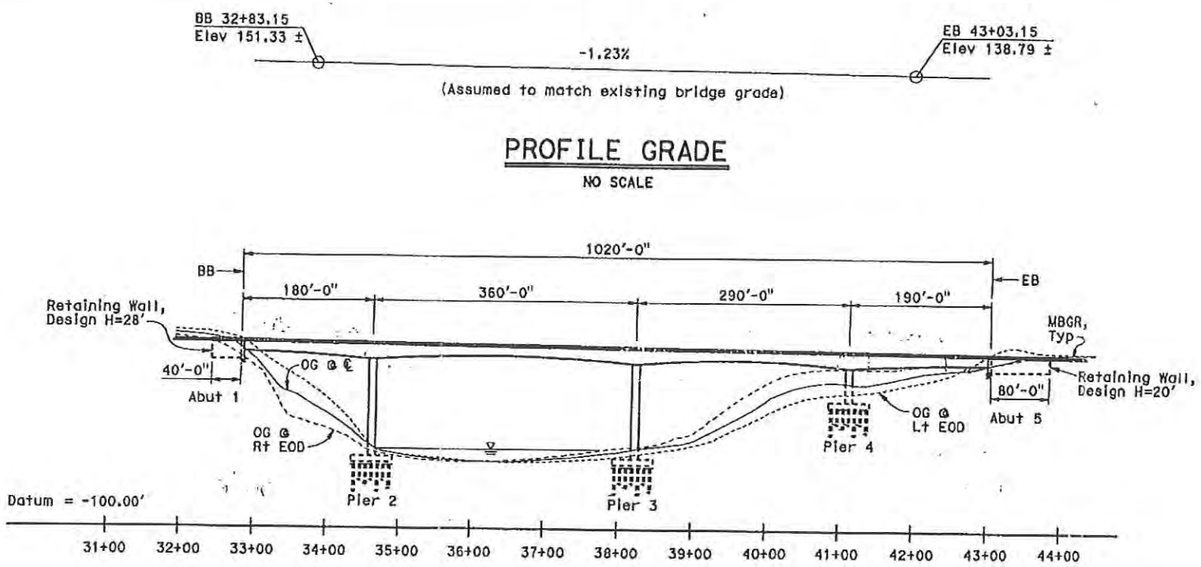
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/05)

USERNAME => jtang DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:24

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov

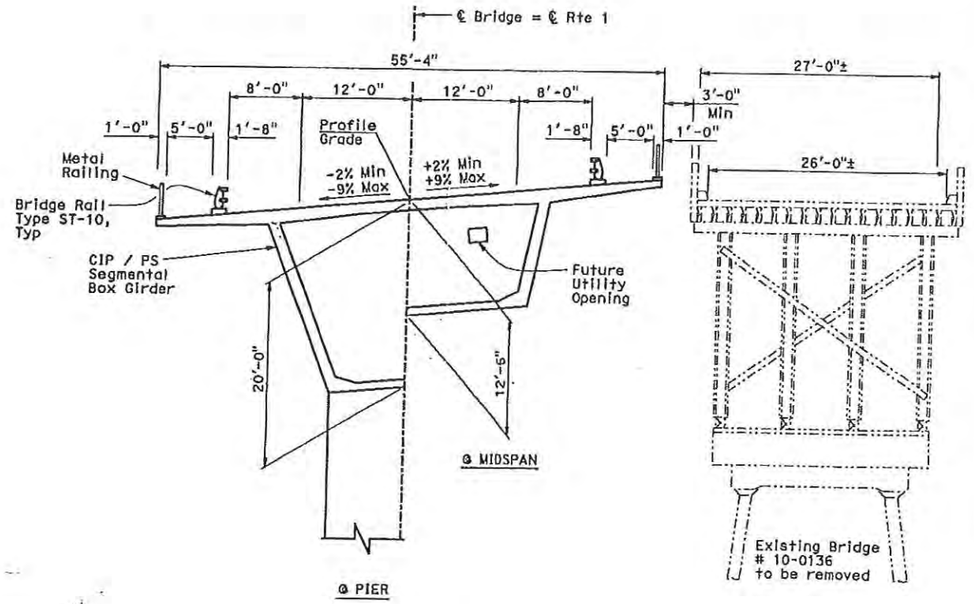


PROFILE GRADE

NO SCALE

DEVELOPED ELEVATION

1" = 200'



TYPICAL SECTION

1/16" = 1'-0"

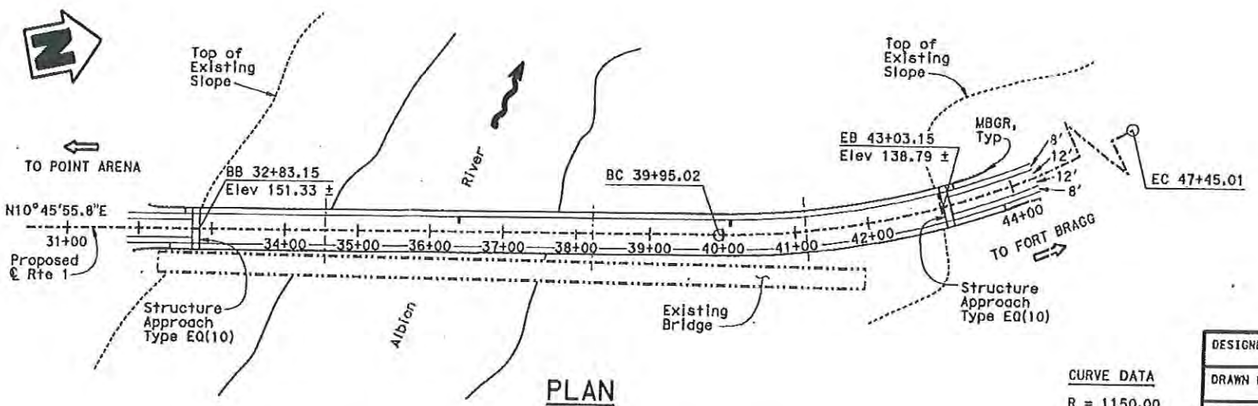
Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Bridge assumed to be constructed segmentally by the balanced cantilever method
4. Traveled way deck drainage carried through Abutment 5 (drainage flow encroaches 6" into lane). Sidewalk drainage utilizes scuppers and drop-through drains
5. Seal course concrete and Type A Excavation assumed @ Piers 2 & 3

Legend:

------ Indicates Existing Structure

I Indicates Deck Drain, Type C (traveled way drainage system)



PLAN

1" = 200'

CURVE DATA

R = 1150.00
Δ = 37°21'59.7"
T = 388.88
L = 750.00

DESIGNED BY Daniel Sessions	DATE 12/30/08	STRUCTURE DESIGN BRANCH 1
DRAWN BY Bob Huddleston	DATE 1/6/09	
CHECKED BY Kevin Harper	DATE 2/4/09	
APPROVED Jeff Sims	DATE 2/4/09	

Date of Estimate	4/23/2009
Str. Depth	= Varies
Length	= 1020 ft
Width	= 55'-4"
Area	= 56,440 ft²
Cost/sq ft including	
10% Mobilization &	
25% Contingency	$ = 787-68
Total Cost	$ = 44,456,201

ALTERNATIVE 1B

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/05)

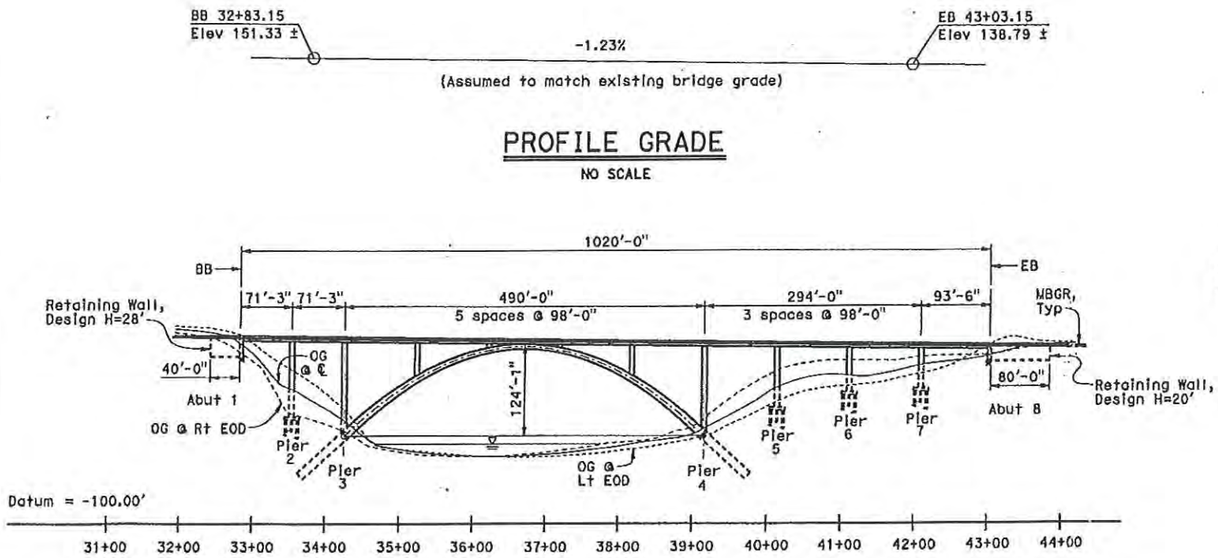
FILE => albion_river_apsib.dgn

DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:32

USERNAME => jtang

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74
To get to the Caltrans web site, go to: http://www.dot.ca.gov			

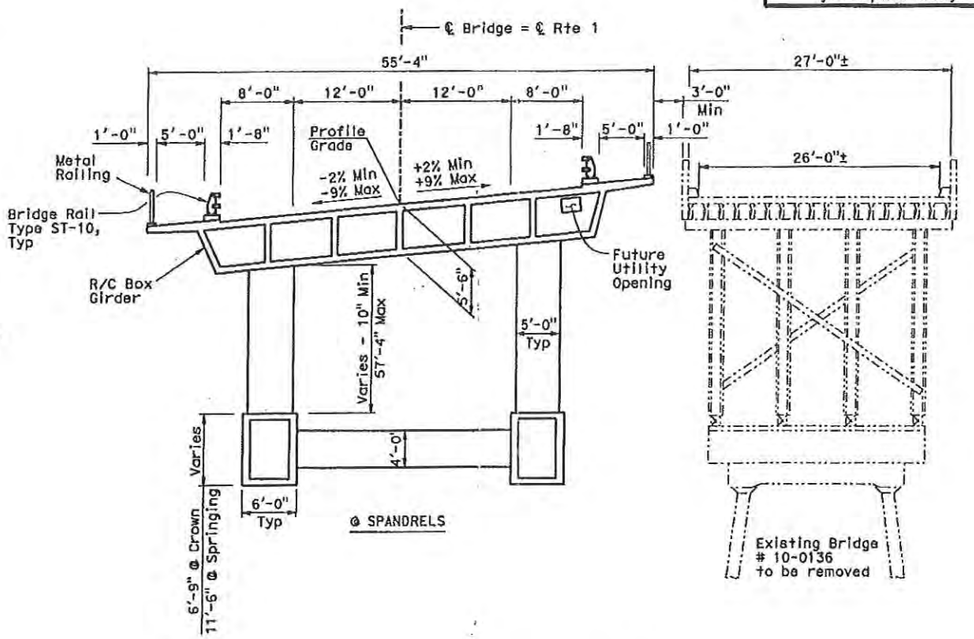


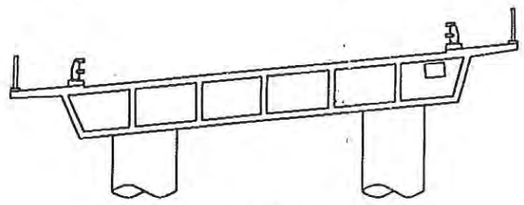
Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Rock voids and fracture density assumed to be low enough that ground water can be controlled at the arch mined shaft foundations.
4. Traveled way deck drainage carried through Pier 5 & Abutment 8. Sidewalk drainage utilizes scuppers and drop-through Drains

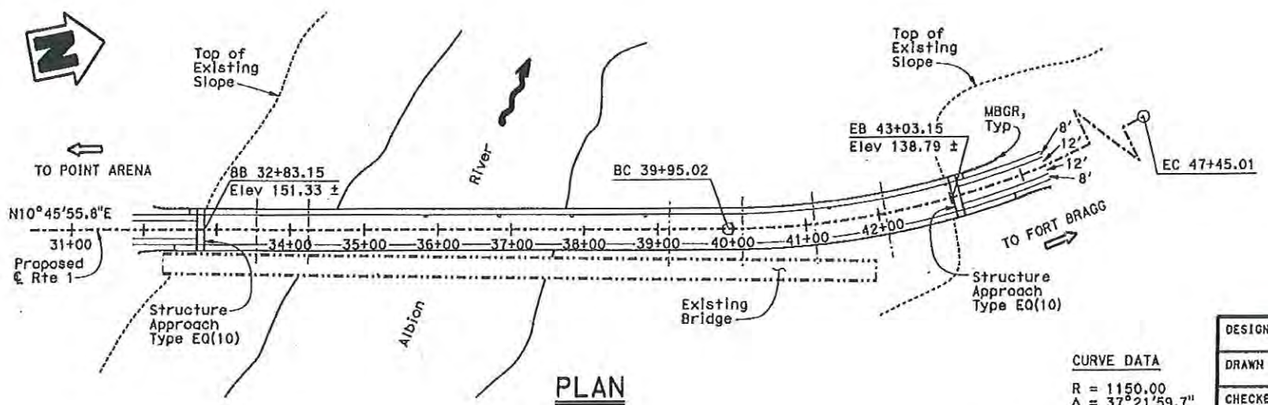
Legend:

------ Indicates Existing Structure
˅ Indicates Deck Drain Type D-3 (traveled way drainage system)





TYPICAL SECTION
1/16" = 1'-0"



PLAN
1" = 200'

CURVE DATA
R = 1150.00
Δ = 37°21'59.7"
T = 388.88
L = 750.00

Date of Estimate 4/23/09
Str. Depth = Box = 5.5 ft, Arch = 6.75 to 11.5 ft
Length = 1020 ft
Width = 55'-4"
Area = 56,440 ft²
Cost/sq ft including 10% Mobilization & 25% Contingency = $459.16
Total Cost = $25,914,840

DESIGNED BY Daniel Sessions	DATE 12/30/08
DRAWN BY Bob Huddleston	DATE 1/7/09
CHECKED BY Kevin Harper	DATE 2/4/09
APPROVED Jeff Sims	DATE 2/4/09

STRUCTURE DESIGN BRANCH 1

ALTERNATIVE 1C

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/28/05)

FILE => albion_river_opsle.dgn

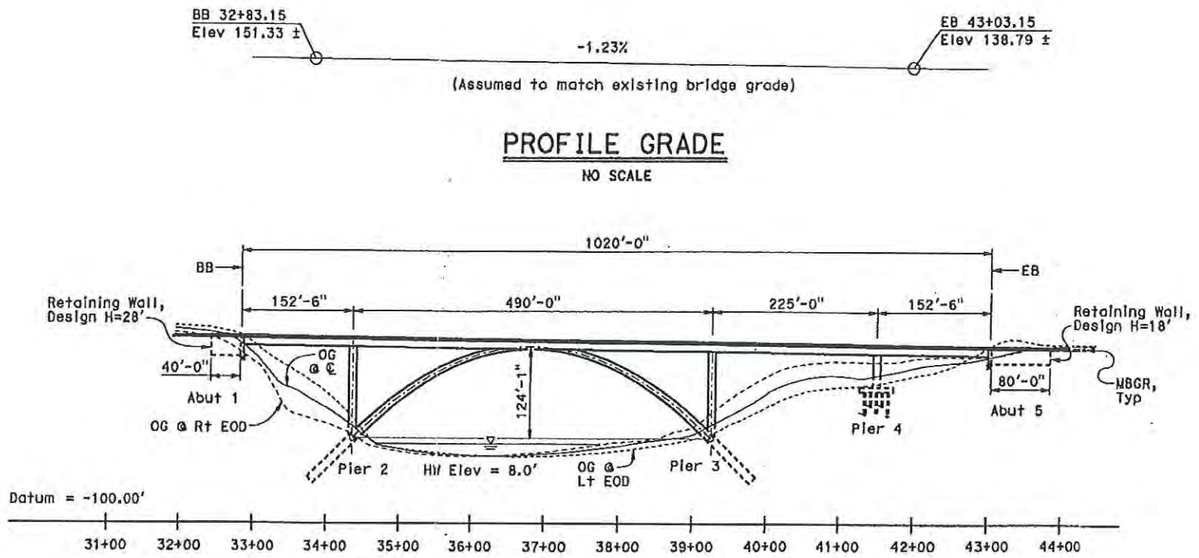
DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:26

USERNAME => jtang

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov

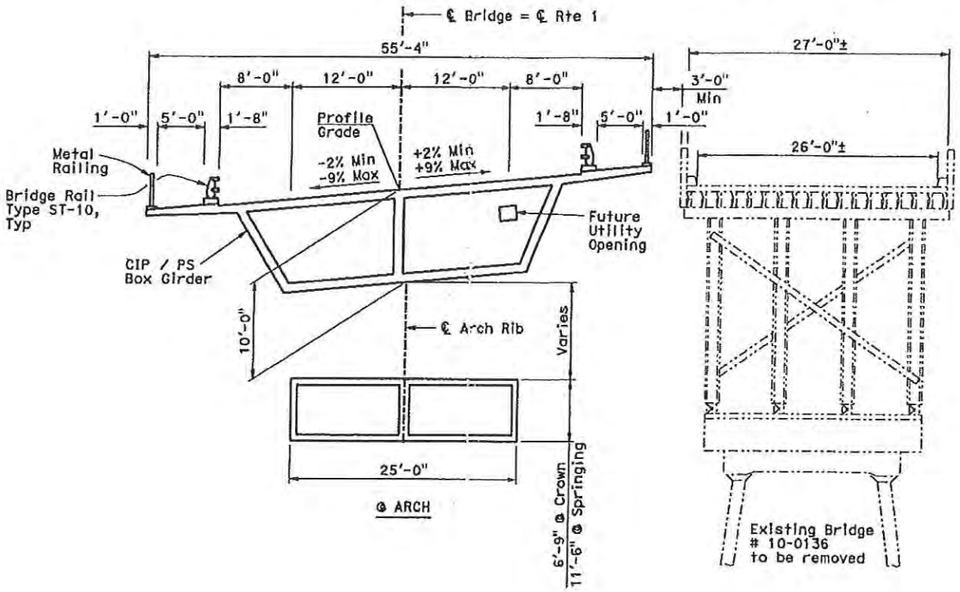


PROFILE GRADE

NO SCALE

DEVELOPED ELEVATION

1" = 200'



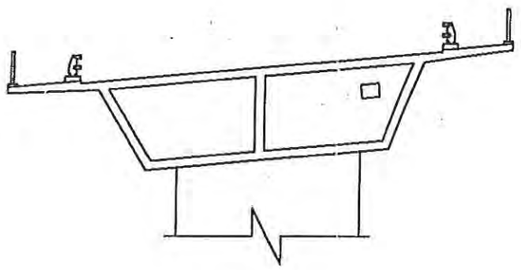
Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Traveled way deck drainage carried through Abutment 5. Sidewalk drainage utilizes scuppers and drop-through Drains
4. Rock voids and fracture density assumed to be low enough that ground water can be controlled at the arch mined shaft foundations

Legend:

---- Indicates Existing Structure

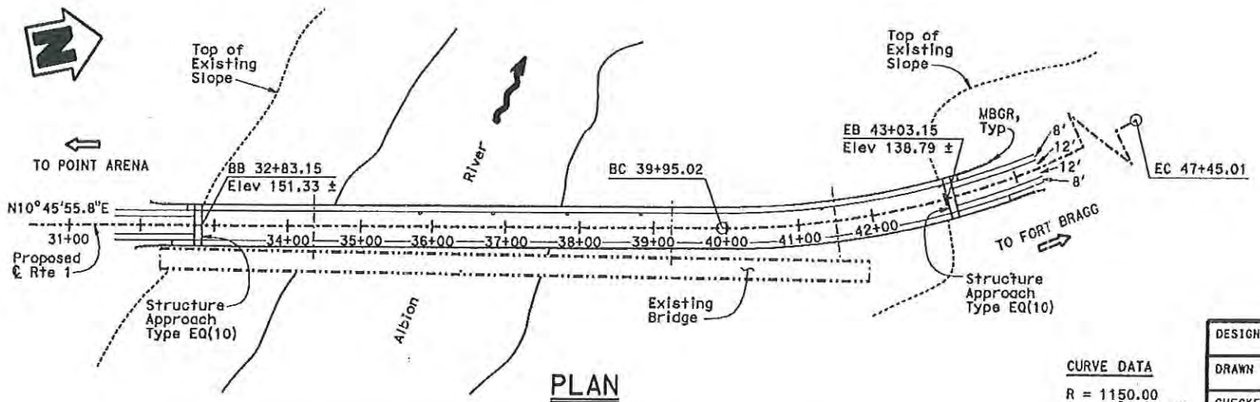
◦ Indicates Deck Drain Type D-3 (traveled way drainage system)



@ PIER 4

TYPICAL SECTION

1/16" = 1'-0"



PLAN

1" = 200'

CURVE DATA

R = 1150.00
Δ = 37°21'59.7"
T = 388.88
L = 750.00

DESIGNED BY	Daniel Sessions	DATE	12/30/08
DRAWN BY	Bob Huddleston	DATE	1/8/09
CHECKED BY	Kevin Harper	DATE	2/4/09
APPROVED	Jeff Sims	DATE	2/4/09

STRUCTURE DESIGN BRANCH 1

Date of Estimate	4/23/09
Str. Depth	= Box = 10.0 ft, Arch = 6.75 to 11.5 ft
Length	= 1020 ft
Width	= 55'-4"
Area	= 56,440 ft²
Cost/sq ft including 10% Mobilization & 25% Contingency	= $591.29
Total Cost	= $33,372,369

ALTERNATIVE 1D

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

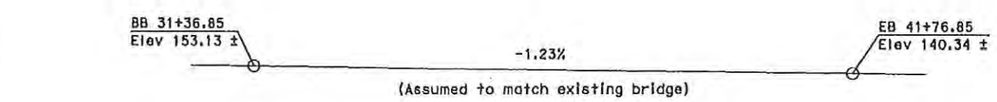
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/23/05)

FILE => albion_river_opsld.dgn

USERNAME => jtong DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:28

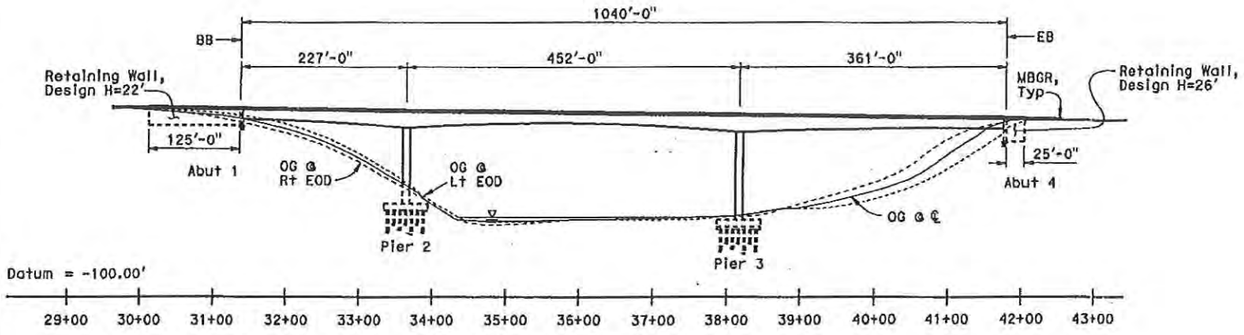
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74
To get to the Caltrans web site, go to: http://www.dot.ca.gov			



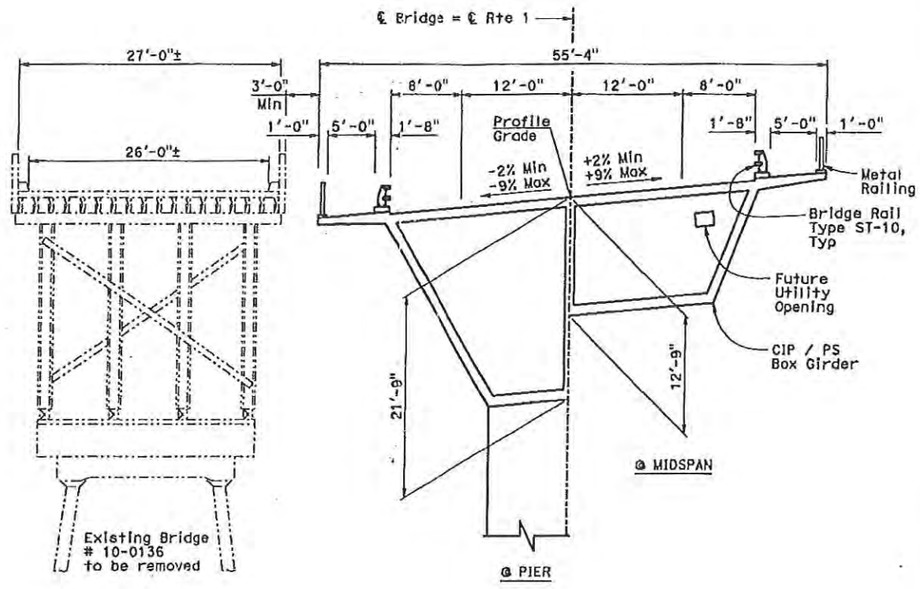
PROFILE GRADE

NO SCALE



DEVELOPED ELEVATION

1" = 200'



TYPICAL SECTION

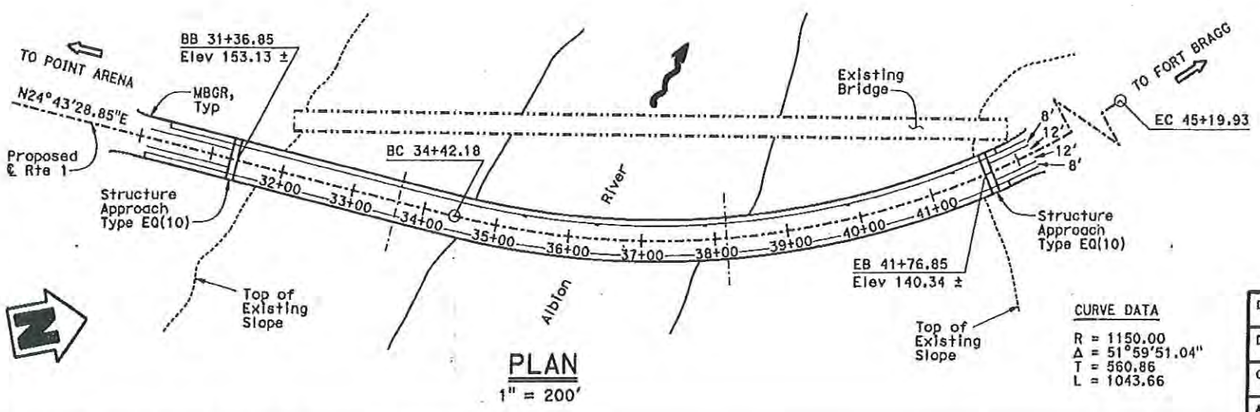
1½" = 1'-0"

Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Traveled way deck drainage carried through Abutment 4. Sidewalk drainage utilizes scuppers and drop-through Drains
4. Type D Excavation assumed @ Pier 2
5. Seal Course concrete and Type A Excavation assumed @ Pier 3

Legend:

- ------ Indicates Existing Structure
- ᵥ Indicates Deck Drain Type D-3 (traveled way drainage system)



PLAN

1" = 200'

CURVE DATA

R = 1150.00
Δ = 51°59'51.04"
T = 560.86
L = 1043.66

Date of Estimate	4/23/09
Str. Depth	= Varies
Length	= 1040 ft
Width	= 55'-4"
Area	= 57,547 ft²
Cost/sq ft Including 10% Mobilization & 25% Contingency	= ~~$458.40~~
Total Cost	= ~~$26,377,979~~

DESIGNED BY Daniel Sessions	DATE 12/30/08	STRUCTURE DESIGN BRANCH 1	ALTERNATIVE 2A
DRAWN BY Bob Huddleston	DATE 1/26/09		PLANNING STUDY
CHECKED BY Kevin Harper	DATE 2/4/09		ALBION RIVER BR (REPLACE)
APPROVED Jeff Sims	DATE 2/4/09		BRIDGE NO. 10-136 CU 01. EA 40110K
			SCALE: AS SHOWN

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/05)

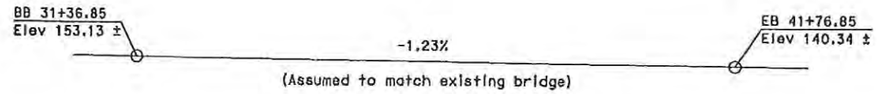
FILE => albion_river_ops2a.dgn

USERNAME => jtong DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:30

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

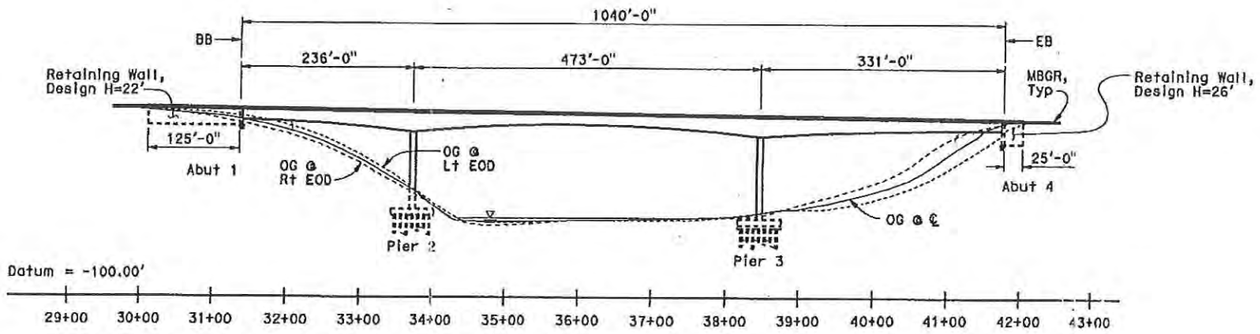
DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov



PROFILE GRADE

NO SCALE



DEVELOPED ELEVATION

1" = 200'

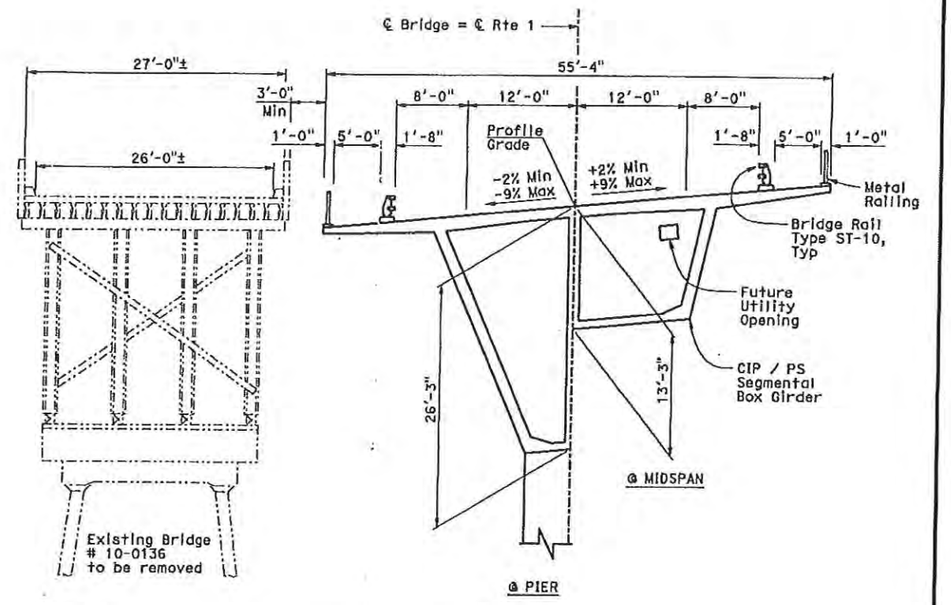
Notes:

1. 24" CIDH Piles, 60 ft (45 ton) assumed @ Abutments
2. 36" CISS Piles, 100 ft (200 ton) assumed @ Piers
3. Bridge assumed to be constructed segmentally by the balanced cantilever method
4. Traveled way deck drainage carried through Abutment 4. Sidewalk drainage utilizes scuppers and drop-through Drains
5. Type D Excavation assumed @ Pier 2
6. Seal Course concrete and Type A Excavation assumed @ Pier 3

Legend:

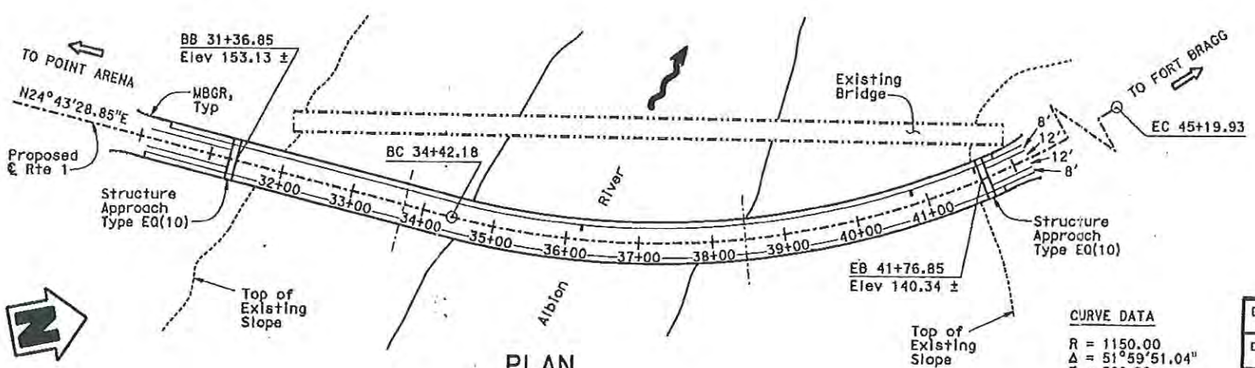
-·-·-·- Indicates Existing Structure

: Indicates Deck Drain, Type C (traveled way drainage system)



TYPICAL SECTION

1/16" = 1'-0"



PLAN

1" = 200'

CURVE DATA

R = 1150.00
Δ = 51°59'51.04"
T = 560.86
L = 1043.66

Date of Estimate	4/23/09
Str. Depth	= Varies
Length	= 1040 ft
Width	= 55'-4"
Area	= 57,546 ft²
Cost/sq ft including 10% Mobilization & 25% Contingency	= $713.57
Total Cost	= $41,060,912

DESIGNED BY	Daniel Sessions	DATE	12/30/08
DRAWN BY	Bob Huddleston	DATE	1/26/09
CHECKED BY	Kevin Harper	DATE	2/4/09
APPROVED	Jeff Sims	DATE	2/4/09

STRUCTURE DESIGN BRANCH 1

ALTERNATIVE 2B

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

USERNAME => jtang DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 15:56

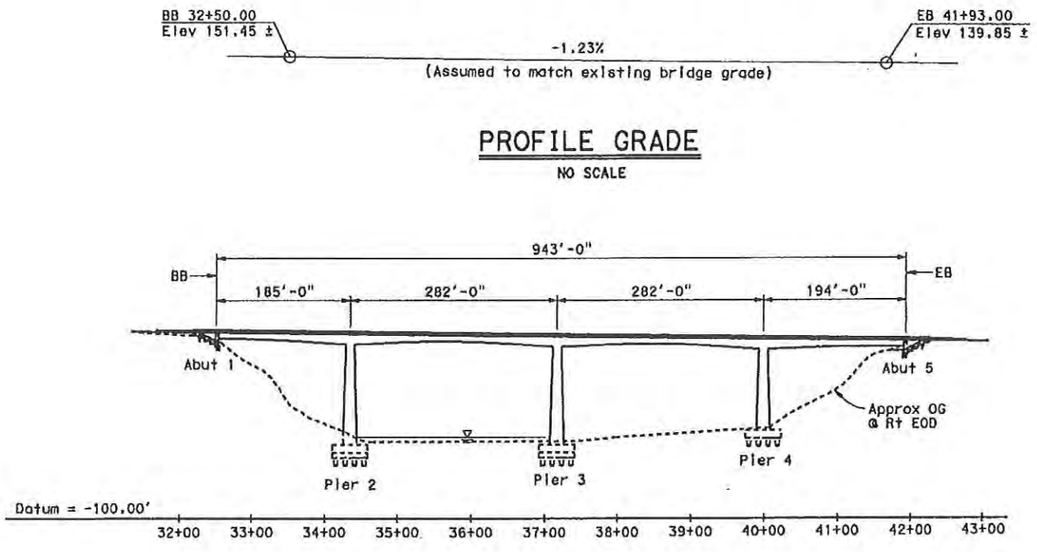
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/03)

FILE => albion_river_aps2b.dgn

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov



PROFILE GRADE

NO SCALE

DEVELOPED ELEVATION

1" = 200'

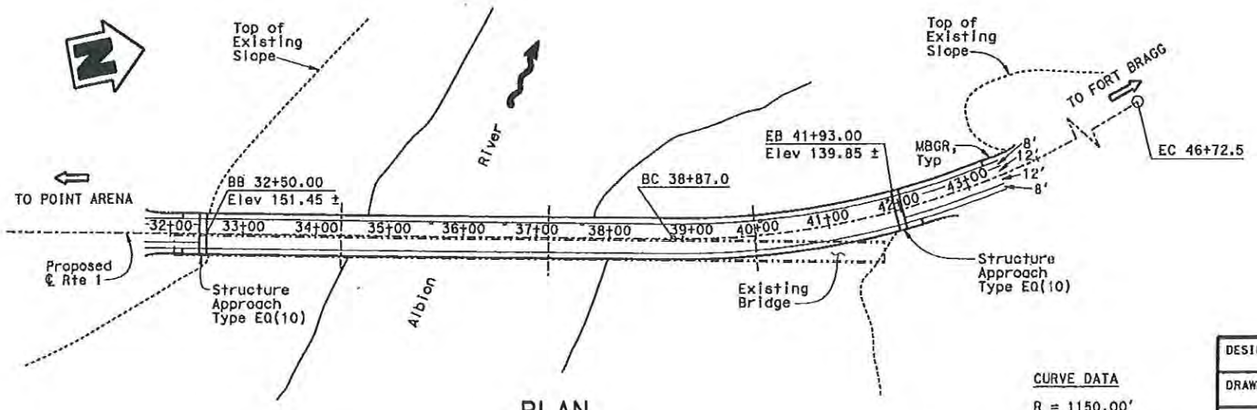
Notes:

1. 24" CIDH Piles (45 ton) assumed @ Abutments
2. 5'-0" CISS concrete piles (1800 ton) assumed @ Piers
3. Traveled way deck drainage carried through Abutment 5. Sidewalk drainage utilizes scuppers and drop-through Drains.
4. Seal Course concrete and Type A Excavation assumed @ Piers 2 & 3
5. Type D Excavation assumed @ Pier 4

Legend:

---------- Indicates Existing Structure

" Indicates Deck Drain Type D-3 (traveled way drainage system)

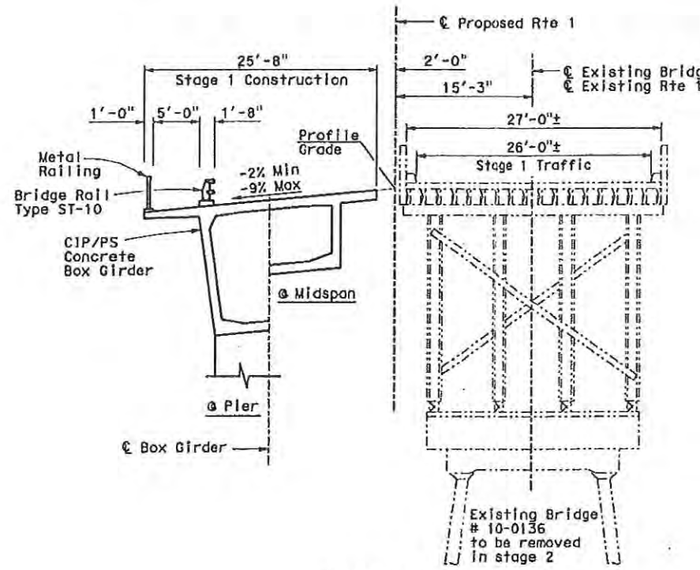


PLAN

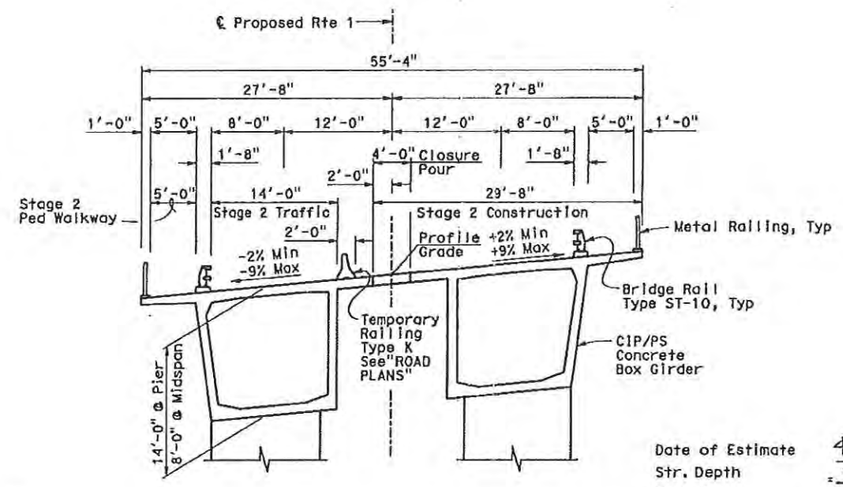
1" = 200'

CURVE DATA

R = 1150.00'
Δ = 39°08'08"
L = 786.74'



STAGE 1



STAGE 2

TYPICAL SECTION

1/16" = 1'-0"

Date of Estimate	4/23/09
Str. Depth	= Varies
Length	= 943.00 ft
Width	= 55'-4"
Area	= 52,179 ft²
Cost/sq ft including 10% Mobilization & 25% Contingency	= $773.76
Total Cost	= $40,371,719

DESIGNED BY Kevin Harper	DATE 03/10/09
DRAWN BY Jie Tong	DATE 03/10/09
CHECKED BY	DATE
APPROVED Jeff Sims	DATE

STRUCTURE DESIGN BRANCH 1

ALTERNATIVE 3A

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

FILE => albion_river_ops3a.dgn

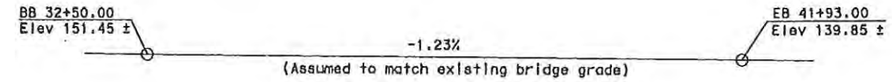
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/05)

USERNAME => Jtang DATE PLOTTED => 17-MAR-2009 TIME PLOTTED => 14:50

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

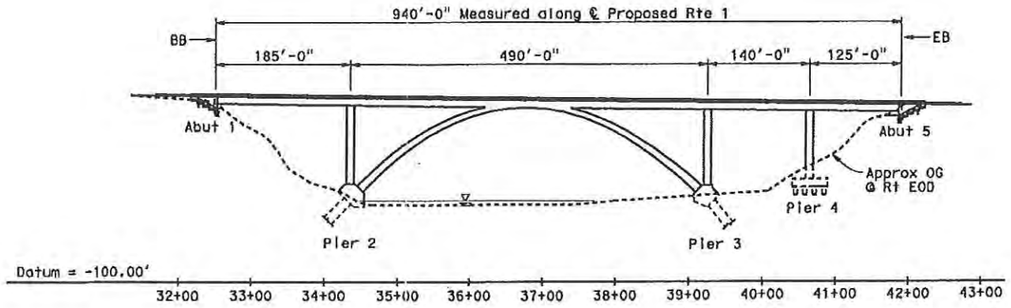
DIST	COUNTY	ROUTE	POST MILE
01	MEN	1	43.74

To get to the Caltrans web site, go to: http://www.dot.ca.gov



PROFILE GRADE

NO SCALE



DEVELOPED ELEVATION

1" = 200'

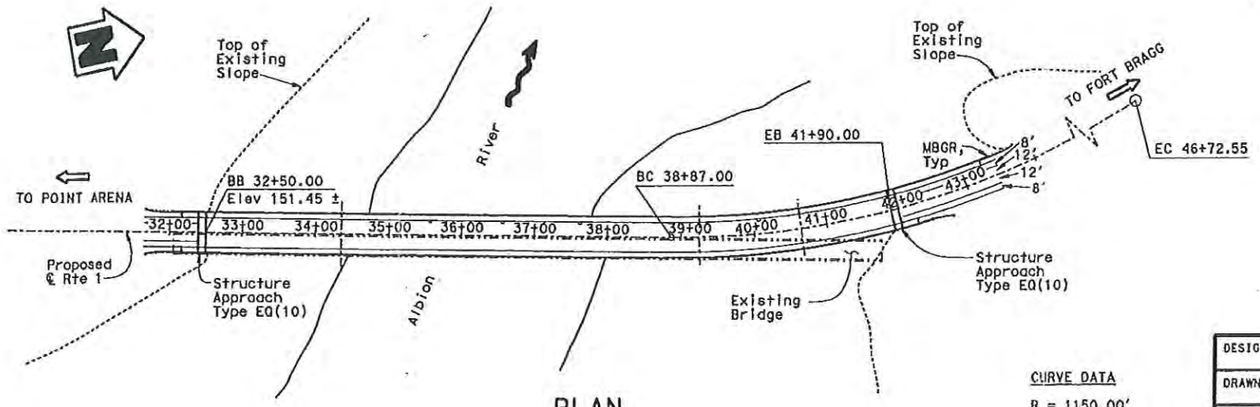
Notes:

1. 24" CIDH Piles (45 ton) assumed @ Abutments
2. 5'-0" CISS concrete piles (1800 ton) assumed @ Pier 4
3. 13'-0" X 17'-0" X 80' deep mined shafts assumed @ arch Rib foundation (Pier 2 & 3)
4. Rock voids and fracture density assumed to be low enough that ground water can be controlled at the arch mined shaft foundations.
5. Type D Excavation assumed @ Pier 4
6. Traveled way deck drainage carried through Abutment 5. Sidewalk drainage utilizes scuppers and drop-through Drains.

Legend:

-·-·-·- Indicates Existing Structure

◦ Indicates Deck Drain Type D-3 (traveled way drainage system)

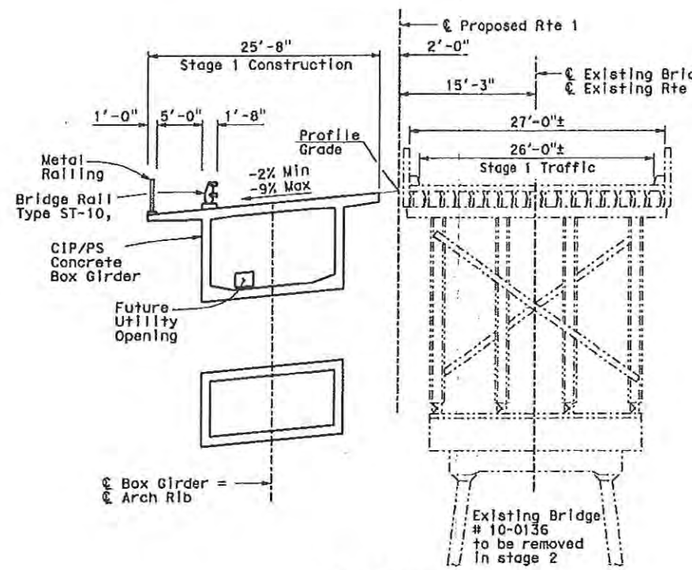


PLAN

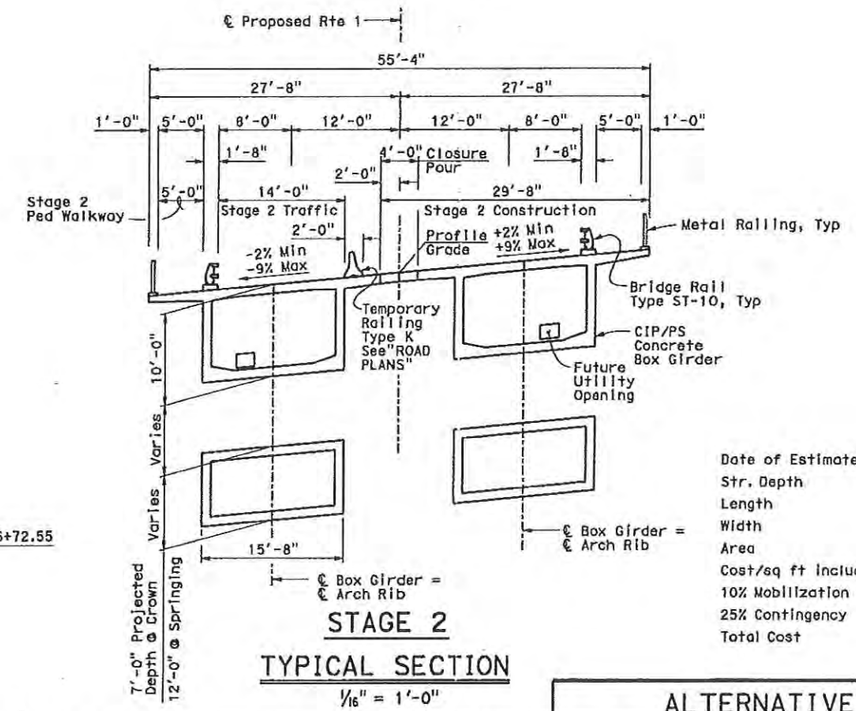
1" = 200'

CURVE DATA

R = 1150.00'
Δ = 39°08'08"
L = 786.74'



STAGE 1



STAGE 2

TYPICAL SECTION

1/16" = 1'-0"

Date of Estimate	4/23/09
Str. Depth	Varies
Length	940.00 ft
Width	55'-4"
Area	52,013 ft²
Cost/sq ft including 10% Mobilization & 25% Contingency	$904.69
Total Cost	$47,055,708

DESIGNED BY Kevin Harper	DATE 03/17/09
DRAWN BY Jie Tang	DATE 03/17/09
CHECKED BY	DATE
APPROVED Jeff Sims	DATE

STRUCTURE DESIGN BRANCH 1

ALTERNATIVE 3B

PLANNING STUDY

ALBION RIVER BR (REPLACE)

BRIDGE NO. 10-136	CU 01
SCALE: AS SHOWN	EA 40110K

USERNAME => jtang DATE PLOTTED => 16-MAR-2009 TIME PLOTTED => 08:18

FILE => albion_river_ops3b.dgn

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 10/25/05)

ATTACHMENT E

COST ESTIMATE

Project Study Report-Cost Estimate

01-MEN-01
PM 43.3/44.2
EA 01-40110K
HA21 PROGRAM / 20.10.201.110

ALBION RIVER BRIDGE REPLACEMENT PROJECT

ALTERNATIVE 1:
WEST-SIDE REPLACEMENT BRIDGE CONSTRUCTED CLEAR OF EXISTING ALBION RIVER BRIDGE

PROJECT DESCRIPTION:

LIMITS: The Albion River Bridge is located on State Route 1 in Mendocino County, from PM 43.74 to PM 43.92, in Albion, 3.4 miles north of the Route 128 junction. Limits of work are between PM 43.3 and 44.2.

PROPOSED IMPROVEMENT (SCOPE): Project proposes to replace the Albion River Bridge (#10-0136) west of the existing structure. Also included in this project is realignment, shouldering widening, culvert replacement, and drainage work.

SUMMARY OF ESTIMATED COST (2009)

	1A	1B	1C	1D
TOTAL ROADWAY ITEMS	$10,306,000	$10,306,000	$10,306,000	$10,306,000
TOTAL STRUCTURE ITEMS	$31,765,000	$45,474,000	$26,933,000	$34,390,000
SUBTOTAL CONSTRUCTION COSTS	$42,071,000	$55,780,000	$37,239,000	$44,696,000
TOTAL RIGHT OF WAY ITEMS	$2,607,000	$2,607,000	$2,607,000	$2,607,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$44,678,000	$58,387,000	$39,846,000	$47,303,000
CALL	**$44,700,000**	**$58,400,000**	**$39,900,000**	**$47,400,000**

Reviewed by District Program Manager _____ Date _____

Approved by Project Manager _____ Date _____

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost
Clearing & Grubbing	1	LS	$500,000	$500,000
Roadway Excavation	50,288	CY	$25	$1,257,190
			Subtotal Earthwork	**$1,757,190**

Section 2 Pavement Structural Section	Quantity	Unit	Unit Price	Item Cost
Hot Mix Asphalt - Type A	4,900	TON	$85	$416,500
OGFC	2,000	TON	$105	$210,000
Aggregate Base (Class 2)	8,100	CY	$50	$405,000
Pavement Reinforcing Fabric	4,500	SQYD	$2	$9,000
Cold Plane AC	800	SQYD	$4	$3,200
Obiterate Surfacing	7,700	SQYD	$10	$77,000
			Subtotal Pavement Structural Section	**$1,120,700**

Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost
Install / Modify / Replace Culvert	4	EA	$45,000	$180,000
			Subtotal Drainage	**$180,000**

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost
Progress Schedule (Critical Path)	1	LS	$10,000	$10,000
Erosion Control and Highway Planting	1	LS	$390,000	$390,000
Prepare Storm Water Pollution Prevention Plan	1	LS	$10,000	$10,000
Construction Site BMP Items	1	LS	$1,955,000	$1,955,000
Retaining Wall (Type 1)	1	LS	$238,000	$238,000
Transition Railing (Type WB)	4	EA	$5,000	$20,000
Terminal Section (Type C)	4	EA	$250	$1,000
Construction Access	5	LS	$238,000	$238,000
Incentive for Asphalt Concrete (QC/QA) (4% of HMA & OGFC)	1	LS	$25,060	$25,060
			Subtotal Specialty Items	**$2,887,060**

Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost
Thermoplastic Striping (4")	30,915	FT	$1.40	$43,281
Thermoplastic Pavement Marking	328	SQFT	$8.00	$2,624
Pavement Marker (Retroreflective)	381	EA	$10.00	$3,806
Portable Changeable Message Sign (PCMS)	2	EA	$6,500	$13,000
Relocate Roadside Sign	1	LS	$20,000	$20,000
Remove Roadside Sign	1	LS	$15,000	$15,000
Install Roadside Sign	1	LS	$20,000	$20,000
Construction Area Signs	1	LS	$50,000	$50,000
			Subtotal Traffic Items	**$167,711**

Traffic Additions (Added in "TOTAL SECTIONS 1 thru 5)				
Traffic Control System	1	LS	(6% Item Subtotal)	$366,800
Maintain Traffic	1	LS	(7% Item Subtotal)	$427,900
			SUBTOTAL	**$6,112,661**
			TOTAL SECTIONS 1 thru 5	**$6,907,361**

Section 6 Minor Items			
	$6,907,361 x (5%) =		$345,368
	(Subtotal Sections 1 thru 5)		$6,907,361
		TOTAL MINOR ITEMS	**$345,368**

Section 7 Roadway Mobilization			
	$7,252,729 x (10%) =		$725,273
	(Subtotal Sections 1 thru 6)		$7,252,729
		TOTAL ROADWAY MOBILIZATION	**$725,273**

Section 8 Roadway Additions	Quantity	Unit	Unit Price	Item Cost
Supplemental Work		$7,252,729 x (5%) =		$362,636
		(Subtotal Sections 1 thru 6)		$7,252,729
Contingencies		$7,252,729 x (25%) =		$1,813,182
		(Subtotal Sections 1 thru 6)		$7,252,729
	$ Per Hour	Hours Per Day	Work Days	
COZEEP setups @ $100 per Hour Working 10 Hour Days	$100	10	72	$72,000
*Estimated at 30% of total Structure Type 1A workingdays				
Construction Office		RE Office ($2200/month for 36 months)		$79,200
		(Subtotal Sections 1 thru 6)		$7,252,729
			TOTAL ROADWAY ADDITIONS (Sections 7 & 8)	**$3,052,292**
			TOTAL ROADWAY ITEMS	**$10,306,000**

II. STRUCTURES ITEMS

Existing Structure:				
Bridge Name	Albion River Bridge (#10-0136) Replacement			
Structure Type	(309/702) Steel Deck Truss/Wood Stringer and Beam			
Replacement Structure:	1A	1B	1C	1D
Width (out to out) - (ft)	55.3	55.3	55.3	55.3
Length (begin to end bridge) - (ft)	1,020	1,020	1,020	$1,020
Total Area - (SF)	56,440	56,440	56,440	$56,440
Footing Type (pile/spread)	Spread with CISS Pile	Spread with CISS Pile	Spread with CISS Pile	Spread with CISS Pile
Demolition (calculated at $46.12 per SF)	$1,017,375.00	$1,017,375.00	$1,017,375.00	$1,017,375
Construction Cost per SF (preliminary)	$545	$788	$459	$591
Total Structure Cost =	$30,747,365	$44,456,201	$25,914,840	$33,372,369
SUBTOTAL STRUCTURES ITEMS (Sum of Total Cost for Structures)	**$31,764,740**	**$45,473,576**	**$26,932,215**	**$34,389,744**

Railroad Related Costs:	NA		
		SUBTOTAL RAILROAD ITEMS	**$0**

TOTAL STRUCTURES ITEMS	**$31,765,000**	**$45,474,000**	**$26,933,000**	**$34,390,000**

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands,	$846,779
B. Mitigation acquisition & credits	$1,740,000
C. Project Development Permit Fees	$9,000
D. Utility Relocation (State share)	$0
E. Relocation Assistance (RAP)	$0
F. Clearance/Demolition	$0
G. Title and Escrow Fees	$11,350

TOTAL RIGHT OF WAY ITEMS $2,607,000

H. Construction Contract Work
Brief Description of Work: West-side bridge replacement, realignment, shouldering widening, culvert replacement, and drainage work

Right of Way Branch Cost Estimate for Work: $0

Anticipated Date of Right of Way Certification (Date to which Values are Escalated): N/A

Estimate Prepared By: Johnathon Jackson Phone # 707-441-2059

Project Study Report-Cost Estimate

01-MEN-01
PM 43.3/44.2
EA 01-40110K
HA21 PROGRAM / 20.10.201.110

ALBION RIVER BRIDGE REPLACEMENT PROJECT

ALTERNATIVE 2:
EAST-SIDE REPLACEMENT BRIDGE CONSTRUCTED CLEAR OF EXISTING ALBION RIVER BRIDGE

PROJECT DESCRIPTION:

LIMITS: The Albion River Bridge is located on State Route 1 in Mendocino County, from PM 43.74 to PM 43.92, in Albion, 3.4 miles north of the Route 128 junction. Limits of work are between PM 43.3 and 44.2.

PROPOSED IMPROVEMENT (SCOPE): Project proposes to replace the Albion River Bridge (#10-0136) east of the existing structure. Also included in this project is realignment, shouldering widening, culvert replacement, and drainage work.

SUMMARY OF ESTIMATED COST (2009)

	2A	2B
TOTAL ROADWAY ITEMS	$12,043,000	$12,043,000
TOTAL STRUCTURE ITEMS	$27,356,000	$42,079,000
SUBTOTAL CONSTRUCTION COSTS	$39,399,000	$54,122,000
TOTAL RIGHT OF WAY ITEMS	$4,341,000	$4,341,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$43,740,000	$58,463,000
CALL	**$43,800,000**	**$58,500,000**

Reviewed by District Program Manager _____ Date _____

Approved by Project Manager _____ Date _____

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost
Clearing & Grubbing	1	LS	$500,000	$500,000
Roadway Excavation	23,113	CY	$25	$577,823
			Subtotal Earthwork	**$1,077,823**

Section 2 Pavement Structural Section	Quantity	Unit	Unit Price	Item Cost
Hot Mix Asphalt - Type A	4,500	TON	$85	$382,500
OGFC	1,800	TON	$105	$189,000
Aggregate Base (Class 2)	8,100	CY	$50	$405,000
Pavement Reinforcing Fabric	5,900	SQYD	$2	$11,800
Cold Plane AC	900	SQYD	$4	$3,600
Obiterate Surfacing	7,800	SQYD	$10	$78,000
			Subtotal Pavement Structural Section	**$1,069,900**

Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost
Install / Modify / Replace Culvert	3	EA	$45,000	$135,000
			Subtotal Drainage	**$135,000**

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost
Progress Schedule (Critical Path)	1	LS	$10,000	$10,000
Erosion Control and Highway Planting	1	LS	$390,000	$390,000
Prepare Storm Water Pollution Prevention Plan	1	LS	$10,000	$10,000
Construction Site BMP Items	1	LS	$2,083,000	$2,083,000
Retaining Wall (Type 1)	3	LS	$1,930,000	$1,930,000
Transition Railing (Type WB)	4	EA	$5,000	$20,000
Terminal Section (Type C)	4	EA	$250	$1,000
Construction Access	5	LS	$238,000	$238,000
Incentive for Asphalt Concrete (QC/QA) (4% of HMA & OGFC)	1	LS	$22,860	$22,860
			Subtotal Specialty Items	**$4,704,860**

Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost
Thermoplastic Striping (4")	30,631	FT	$1.40	$42,883
Thermoplastic Pavement Marking	328	SQFT	$8.00	$2,624
Pavement Marker (Retroreflective)	381	EA	$10.00	$3,806
Portable Changeable Message Sign (PCMS)	2	EA	$6,500	$13,000
Relocate Roadside Sign	1	LS	$20,000	$20,000
Remove Roadside Sign	1	LS	$15,000	$15,000
Install Roadside Sign	1	LS	$20,000	$20,000
Construction Area Signs	1	LS	$50,000	$50,000
			Subtotal Traffic Items	**$167,313**

Traffic Additions (Added in "TOTAL SECTIONS 1 thru 5)				
Traffic Control System	1	LS	(6% Item Subtotal)	$429,300
Maintain Traffic	1	LS	(7% Item Subtotal)	$500,900

	SUBTOTAL	**$7,154,896**
TOTAL SECTIONS 1 thru 5		**$8,085,096**

Section 6 Minor Items		
	$8,085,096 x (5%) =	$404,255
	(Subtotal Sections 1 thru 5)	$8,085,096
	TOTAL MINOR ITEMS	**$404,255**

Section 7 Roadway Mobilization		
	$8,489,351 x (10%) =	$848,935
	(Subtotal Sections 1 thru 6)	$8,489,351
	TOTAL ROADWAY MOBILIZATION	**$848,935**

Section 8 Roadway Additions	Quantity	Unit	Unit Price	Item Cost
Supplemental Work		$8,489,351 x (5%) =		$424,468
		(Subtotal Sections 1 thru 6)		$8,489,351
Contingencies		$8,489,351 x (25%) =		$2,122,338
		(Subtotal Sections 1 thru 6)		$8,489,351
COZEEP setups @ $100 per Hour Working 10 Hour Days	$100	10	78	$78,000
*Estimated at 30% of total Structure workingdays				
Construction Office		RE Office ($2200/month for 36 months)		$79,200
		(Subtotal Sections 1 thru 6)		$8,489,351
		TOTAL ROADWAY ADDITIONS (Sections 7 & 8)		**$3,552,940**

TOTAL ROADWAY ITEMS	**$12,043,000**

II. STRUCTURES ITEMS

Existing Structure:		
Bridge Name	Albion River Bridge (#10-0136) Replacement	
Structure Type	(309/702) Steel Deck Truss/Wood Stringer and Beam	
Replacement Structure:	2A	2B
Width (out to out) - (ft)	55.3	55
Length (begin to end bridge) - (ft)	1,040.0	1,040
Total Area - (SF)	57,547	57,547
Footing Type (pile/spread)	Spread with CISS Pile	Spread with CISS Pile
Demolition (calculated at $46.12 per SF)	$1,017,375.00	1,017,375
Construction Cost per SF (preliminary)	$457.68	714
Total Structure Cost =	$26,337,979	$41,060,912
SUBTOTAL STRUCTURES ITEMS (Sum of Total Cost for Structures)	**$27,355,354**	**$42,078,287**

Railroad Related Costs:	NA	
	SUBTOTAL RAILROAD ITEMS	**$0**

TOTAL STRUCTURES ITEMS	**$27,356,000**	**$42,079,000**

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands,	$2,558,579
B. Mitigation acquisition & credits	$1,740,000
C. Project Development Permit Fees	$9,000
D. Utility Relocation (State share)	$0
E. Relocation Assistance (RAP)	$2,500
F. Clearance/Demolition	$20,000
G. Title and Escrow Fees	$10,700

TOTAL RIGHT OF WAY ITEMS	**$4,341,000**

H. Construction Contract Work
Brief Description of Work: East-side bridge replacement, realignment, shouldering widening, culvert replacement, and drainage work

Right of Way Branch Cost Estimate for Work $0

Anticipated Date of Right of Way Certification N/A
(Date to which Values are Escalated)

Estimate Prepared By: Johnathon Jackson Phone # 707-441-2059

Project Study Report-Cost Estimate

01-MEN-01
PM 43.3/44.2
EA 01-40110K
HA21 PROGRAM / 20.10.201.110

ALBION RIVER BRIDGE REPLACEMENT PROJECT

ALTERNATIVE 3:
WEST-SIDE REPLACEMENT BRIDGE CONSTRUCTED IN STAGES

PROJECT DESCRIPTION:

LIMITS: The Albion River Bridge is located on State Route 1 in Mendocino County, from PM 43.74 to PM 43.92, in Albion, 3.4 miles north of the Route 128 junction. Limits of work are between PM 43.3 and 44.2.

PROPOSED IMPROVEMENT (SCOPE): Project proposes to replace the Albion River Bridge (#10-0136) on the existing alignment. Also included in this project is realignment, shouldering widening, culvert replacement, and drainage work.

SUMMARY OF ESTIMATED COST (2009)

	3A	3B
TOTAL ROADWAY ITEMS	$13,250,000	$13,250,000
TOTAL STRUCTURE ITEMS	$41,390,000	$48,074,000
SUBTOTAL CONSTRUCTION COSTS	$54,640,000	$61,324,000
TOTAL RIGHT OF WAY ITEMS	$2,878,000	$2,878,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	$57,518,000	$64,202,000
CALL	**$57,600,000**	**$64,300,000**

Reviewed by District Program Manager _____ Date _____

Approved by Project Manager _____ Date _____

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost
Clearing & Grubbing	1	LS	$550,000	$550,000
Roadway Excavation	30,936	CY	$30	$928,069
			Subtotal Earthwork	**$1,478,069**

Section 2 Pavement Structural Section	Quantity	Unit	Unit Price	Item Cost
Hot Mix Asphalt - Type A	5,000	TON	$90	$450,000
OGFC	1,900	TON	$115	$218,500
Aggregate Base (Class 2)	8,400	CY	$55	$462,000
Pavement Reinforcing Fabric	3,400	SQYD	$3	$10,200
Cold Plane AC	800	SQYD	$5	$4,000
Obiterate Surfacing	8,500	SQYD	$11	$93,500
			Subtotal Pavement Structural Section	**$1,238,200**

Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost
Install / Modify / Replace Culvert	3	EA	$45,000	$135,000
			Subtotal Drainage	**$135,000**

Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost
Progress Schedule (Critical Path)	1	LS	$10,000	$10,000
Erosion Control and Highway Planting	1	LS	$390,000	$390,000
Prepare Storm Water Pollution Prevention Plan	1	LS	$10,000	$10,000
Construction Site BMP Items	1	LS	$2,508,000	$2,508,000
Retaining Wall (Type 1)	2	LS	$1,097,000	$1,097,000
Transition Railing (Type WB)	4	EA	$5,000	$20,000
Terminal Section (Type C)	4	EA	$250	$1,000
Construction Access	5	LS	$268,000	$268,000
Incentive for Asphalt Concrete (QC/QA) (4% of HMA & OGFC)	1	LS	$26,740	$26,740
			Subtotal Specialty Items	**$4,330,740**

Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost
Thermoplastic Striping (4")	30,797	FT	$1.40	$43,116
Thermoplastic Pavement Marking	328	SQFT	$8.00	$2,624
Pavement Marker (Retroreflective)	381	EA	$10.00	$3,806
Portable Changeable Message Sign (PCMS)	2	EA	$6,500	$13,000
Relocate Roadside Sign	1	LS	$20,000	$20,000
Remove Roadside Sign	1	LS	$15,000	$15,000
Install Roadside Sign	1	LS	$20,000	$20,000
Construction Area Signs	1	LS	$50,000	$50,000
			Subtotal Traffic Items	**$167,546**

Traffic Additions (Added in "TOTAL SECTIONS 1 thru 5)				
Traffic Control System	1	LS	(10% Item Subtotal)	$735,000
Maintain Traffic	1	LS	(10% Item Subtotal)	$735,000
			SUBTOTAL	**$7,349,555**
			TOTAL SECTIONS 1 thru 5	**$8,819,555**

Section 6 Minor Items			
	$8,819,555 x (5%) =		$440,978
	(Subtotal Sections 1 thru 5)		$8,819,555
		TOTAL MINOR ITEMS	**$440,978**

Section 7 Roadway Mobilization			
	$9,260,533 x (10%) =		$926,053
	(Subtotal Sections 1 thru 6)		$9,260,533
		TOTAL ROADWAY MOBILIZATION	**$926,053**

Section 8 Roadway Additions	Quantity	Unit	Unit Price	Item Cost
Supplemental Work		$9,260,533 x (5%) =		$463,027
		(Subtotal Sections 1 thru 6)		$9,260,533
Contingencies		$9,260,533 x (25%) =		$2,315,133
		(Subtotal Sections 1 thru 6)		$9,260,533
	$ Per Hour	Hours Per Day	Work Days	
COZEEP setups @ $100 per Hour Working 10 Hour Days	$100	10	153	$153,000
*Estimated at 30% of total Structure workingdays				
Construction Office		RE Office ($2200/month for 60 months)		$132,000
		(Subtotal Sections 1 thru 6)		$9,260,533
			TOTAL ROADWAY ADDITIONS (Sections 7 & 8)	**$3,989,213**

TOTAL ROADWAY ITEMS	**$13,250,000**

II. STRUCTURES ITEMS

Existing Structure:		
Bridge Name	Albion River Bridge (#10-0136) Replacement	
Structure Type	(309/702) Steel Deck Truss/Wood Stringer and Beam	
Replacement Structure:	3A	3B
Width (out to out) - (ft)	55.3	55.3
Length (begin to end bridge) - (ft)	940	943
Total Area - (SF)	52,013	52,179
Footing Type (pile/spread)	Spread with CISS Pile	Spread with CISS Pile
Demolition (calculated at $46.12 per SF)	$1,017,375	$1,017,375.00
Construction Cost per SF (preliminary)	$776.18	$901.81
Total Structure Cost =	$40,371,719	$47,055,708
SUBTOTAL STRUCTURES ITEMS (Sum of Total Cost for Structures)	**$41,389,094**	**$48,073,083**

Railroad Related Costs:	NA	
	SUBTOTAL RAILROAD ITEMS	**$0**

TOTAL STRUCTURES ITEMS	**$41,390,000**	**$48,074,000**

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands,	$1,118,613
B. Mitigation acquisition & credits	$1,740,000
C. Project Development Permit Fees	$9,000
D. Utility Relocation (State share)	$0
E. Relocation Assistance (RAP)	$0
F. Clearance/Demolition	$0
G. Title and Escrow Fees	$10,550

TOTAL RIGHT OF WAY ITEMS	**$2,878,000**

H. Construction Contract Work
Brief Description of Work: West-side staged bridge replacement, realignment, shouldering widening, culvert replacement, and drainage work

Right of Way Branch Cost Estimate for Work $0

Anticipated Date of Right of Way Certification N/A
(Date to which Values are Escalated)

Estimate Prepared By: Johnathon Jackson Phone # 707-441-2059

ATTACHMENT F

STRUCTURE MAINTENANCE AND
INVESTIGATIONS REPORTS

California Department of Transportation
Division of Maintenance

Structure Maintenance and Investigations

BRIDGE
INSPECTION
RECORDS
INFORMATION
SYSTEM

The requested documents have been generated by BIRIS.

These documents are the property of the California Department of Transportation and should be handled in accordance with Deputy Directive 55 and the State Administrative Manual.

Records for "Confidential" bridges may only be released outside the Department of Transportation upon execution of a confidentiality agreement.

PEER REVIEW FACT SHEET
Highway 1 Albion River, Br. No. 10-0136
August 15, 2007

Project Location

01-MEN -1-PM- 43.74

The 969-foot-long Albion River Bridge is located in Mendocino County , approximately 7 miles south of the community of Mendocino. The bridge, which was built in 1944, features 34 spans. There are 33 spans with timber stringers supported by a timber A-frame deck truss. The main span is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 miles downstream of Bidwell Bar.

The bridge is designated Functionally Obsolete due to the deck geometry. The structure is Fracture Critical due to low redundancy (riveted steel deck truss with floor beams).

The bridge 3,200 vehicles a day of which nearly 7% are heavy trucks.

Event Description

A Structure Maintenance & Investigations (SM&I) Peer Review was convened on August 15, 2007 to discuss the recommended replacement of the Highway 1 Albion River Bridge at an estimated cost of $13.2 million. Attendees included Investigations North Chief Pete Whitfield, Senior Bridge Engineers Michael J. Lee, Michael W. Johnson, Takako Fujioka, and Vassil Simeonov, and Area Bridge Maintenance Engineer (ABME) Tim Sandoval.

This 63-year-old structure is designated Functionally Obsolete due to a deck geometry appraisal rating of 3. The structure has an Inventory rating of 30.8 metric tons, an Operating Rating of 71.3 metric tons and a Sufficiency Rating of 69.3.

The bridge has a deficient rail and is recommended for replacement at an estimated cost of $1,009,000. Upgrading the rail to current standards is not feasible without replacing the deck and modifying the superstructure.

The paint health index is 35.5. A recommendation has been made for full preparation and full paint work at an estimated cost of $332,500 (9,430 square-feet). The stated cost has been updated from the estimated cost included in the last bridge inspection report (BIR). The bridge would need to be repainted about every 5 years because of the effects of the corrosive environment to which the structure is exposed.

The 63-year-old bridge is functionally obsolete.

Rehabilitation would require a bridge rail upgrade.

In addition, a March 2007 work recommendation was made to address potential seismic vulnerability (Priority 4. Final Score 2.8125 as calculated by the Office of Earthquake Engineering) by strengthening the steel truss members at an estimated cost of $1,270,000.

The bridge is not Scour Critical with the foundations determined to be stable for calculated scour conditions and the scour to be within the limits of the piles. There has been some local scouring noted around the piers supporting the main span deck truss.

There is a work recommendation to remove and replace the bolted connections and hardware throughout the entire timber sub-structure. Additionally, the replacement of the top left horizontal timber element between Bent 15 and Bent 16 is recommended. The cost has been estimated at $1,500,000.

The replacement of the Albion River Bridge has been identified as a candidate for funding through the State Highway Operation and Protection Program (SHOPP).

Bridge will require repainting every five years.

Alternatives Considered

1) Do nothing - This alternative was not considered due to the need to repaint the bridge, complete recommended seismic strengthening and upgrade the bridge rail to ensure the safety and reliability of this bridge.
2) Rehabilitate the bridge. This alternative involves upgrading the bridge rail, rehabilitating the timber substructure, painting the steel deck truss and completing the recommend seismic strengthening.
Total Estimated Cost = $4,111,500 X 1.2 = $4,934,000
3) Replace the bridge at an estimated cost of $13,200,000 ($400/sq. ft. X 33,000 sq. ft.).

Repair Strategy

Due to the cost of upgrading this 63 year old structure and the need for future costly annual preventive maintenance (including repainting the structure every five years), the Peer Review unanimously affirmed replacement as the preferred alternative to ensure the safety and reliability of this link of the state highway system.

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 10 0136
Facility Carried: STATE ROUTE 1
Location : 01-MEN-001-43.74
City :
Inspection Date : 08/03/2007

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
☐	☐	☐	☐	☒

STRUCTURE NAME: ALBION RIVER

CONSTRUCTION INFORMATION

Year Built : 1944
Year Widened: N/A
Length (m) : 295.4

Skew (degrees): 0
No. of Joints : 2
No. of Hinges : 0

Structure Description: Simple 34-span bridge. Timber 2-ply plank deck, with AC riding surface, timber 17-stringer spans on timber A-frame deck trusses on timber tower bents. Eleven timber approach spans at the south end of the bridge, with Span 8 & 10 being a timber A-frame deck truss. A single-span riveted steel deck truss on RC tower bents over the main channel. Twenty-two timber approach spans at the north end of the bridge, with Span 14, 16, 18, 20, 22, 24, 26, 28, & 30 being a timber A-frame deck truss. Both abutments are RC buttress-type 3-column bents on spread footings. Foundations for Bents 2-10 & 27-34 are concrete pedestal-type spread footings, Tower 11-12 is on driven PC/RC piles and Tower 13-14 is on driven timber piles, Bents 15-26 are concrete pedestal-type footings on driven timber piles. (The main span is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 mi. downstream of Bidwell Bar) All timber is treated Douglas Fir.

Span Configuration : 7@ 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.0 m, 39.6 m, 5.0 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 4@ 5.8 m

LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15
Inventory Rating: 30.8 metric tons Calculation Method: LOAD FACTOR
Operating Rating: 49.9 metric tons Calculation Method: LOAD FACTOR
Permit Rating : POOXX
Posting Load : Type 3 N/A Type 3S2 N/A Type 3-3 N/A

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.1 m br, 0.3 m wg, 7.9 m, 0.3 m wg, 0.1 m br
Total Width: 8.6 m Net Width: 7.9 m No. of Lanes: 2
Rail Description: Timber railings on timber posts, with timber wheel guard in front Rail Code : 0110
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Wide, sandy bed on flat slope situated in bottom of relatively narrow canyon at outlet to the ocean. Tidally influenced; flow reversal. Bridge is on straight reach downstream of right bend, about 180 m from the outlet to the ocean.

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CONDITION TEXT

CONDITION OF STRUCTURE

This "Other" inspection was performed as a response requested by the Federal Department of Transportation on 8/2/2007 under Technical Advisory 5140.27 - Immediate Inspection of Deck Truss Bridges Containing Fracture Critical Members (FCM).

This structure is fracture critical because of the lack of redundancy of the riveted steel deck truss main span. The Fracture Critical Investigation Team is responsible for inspection of the fracture critical steel elements of this bridge. The most recent Fracture Critical Investigation performed on this structure was on 4/5/06 using the Under Bridge Inspection Truck. The inspection of this structure consisted of an overall visual inspection with the following conditions noted:

Both riveted steel deck trusses in Span 12 were visually inspected. Moderate to heavy expansive corrosion was found along the top chord of the steel trusses. No defect indications were found.

This "other" inspection concentrated only on the Span 12 steel deck truss portion of the bridge. The deck truss was visually observed from the catwalk that runs roughly along the centerline of the lower horizontal truss bracing members between the two trusses. Due to the height and width of the truss, most of the members could not be inspected (within an arms reach) during this inspection. Nonetheless, based on visual observations and digital pictures taken during the inspection it appears as though the truss remains in much the same condition as that stated in the previous Fracture Critical report dated 4/5/2006.

PAINT CONDITION

The following conditions have been noted in previous investigations and have not changed significantly:

The main span steel deck truss is heavily rusted. The protective system recently applied (Oct 2000) to this structure has already begun to fail. The paint has broken down in many places on the steel span. The paint system has failed under the assault of the marine environment.

Corrosion has caused section loss in several elements of the top bracing. Layers of paint over expansive corrosion prevent an accurate measurement of the amount of section loss.

Spot rust and localized surface pitting with minimal or no section loss is present in most other truss elements and around the connections. No pack rust was observed in the connections.

MISCELLANEOUS

The main span (12) is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 mi. downstream of Bidwell Bar. The strategy of encapsulating rust by multiple coats of paint has reached the end of its useful life. Due to the thickness of the paint system, it is difficult to determine the extent of section loss in the steel members. The heavy build up of paint precludes early detection of potential fatigue cracking.

Recommendations to repair or replace portions or all of the structure have been added to the backlog of Outstanding Work for this bridge over the span of 20-some years. The district established an Expenditure Authorization (EA), 01-40110X, in April 1999 to

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CONDITION TEXT

address many of these issues. A partial listing includes:

1.) Replace the wood bridge rail.
2.) Remove and replace the bolted connections and hardware throughout the entire timber sub-structure.
3.) Replace the top left horizontal timber element between Bent 15 and Bent 16.
4.) Remove the existing paint system from the steel main span to allow for fracture critical inspections and then repaint.
5.) Replace the steel main span.
6.) Or, replace the entire structure.

This project is identified on the District's Ten Year SHOPP Plan. It is not currently a programmed project, and the EA is currently suspended. However, it is proposed in the 2008 SHOPP for funding in the 2012 year. Nonetheless, no work is under way to deal with most of the outstanding Work Recommendations that have been consolidated under this EA, except for Item Number 2 (by way of a redundant, but separate Work Recommendation, dated 11/6/02) that the district Bridge Maintenance Crew is handling.

Inspected By : W. John Baker

Registered Civil Engineer

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California Department of Transportation
Division of Maintenance

Structure Maintenance and Investigations

BRIDGE
INSPECTION
RECORDS
INFORMATION
SYSTEM

The requested documents have been generated by BIRIS.

These documents are the property of the California Department of Transportation and should be handled in accordance with Deputy Directive 55 and the State Administrative Manual.

Records for "Confidential" bridges may only be released outside the Department of Transportation upon execution of a confidentiality agreement.

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 10 0136
Facility Carried: STATE ROUTE 1
Location : 01-MEN-001-43.74
City :
Inspection Date : 09/25/2007

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: ALBION RIVER

CONSTRUCTION INFORMATION

Year Built : 1944
Year Widened: N/A
Length (m) : 295.4

Skew (degrees): 0
No. of Joints : 2
No. of Hinges : 0

Structure Description: Simply supported 34-span bridge. Timber 2-ply plank deck, with AC riding surface, timber 17-stringer spans on timber A-frame deck trusses on timber tower bents. Eleven timber approach spans at the south end of the bridge, with Span 8 & 10 being a timber A-frame deck truss. A single-span riveted steel deck truss on RC tower bents over the main channel. Twenty-two timber approach spans at the north end of the bridge, with Span 14, 16, 18, 20, 22, 24, 26, 28, & 30 being a timber A-frame deck truss. Both abutments are RC buttress-type 3-column bents on spread footings. Foundations for Bents 2-10 & 27-34 are concrete pedestal-type spread footings, Tower 11-12 is on driven PC/RC piles and Tower 13-14 is on driven timber piles, Bents 15-26 are concrete pedestal-type footings on driven timber piles. (The main span is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 mi. downstream of Bidwell Bar) All timber is treated Douglas Fir.

Span Configuration : 7@ 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.0 m, 39.6 m, 5.0 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 5.8 m, 11.6 m, 4@ 5.8 m

LOAD CAPACITY AND RATINGS

Design Live Load: M-13.5 OR H-15
Inventory Rating: 30.8 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: 49.9 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : POOXX
Posting Load : Type 3 N/A Type 3S2 N/A Type 3-3 N/A

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.1 m br, 0.3 m wg, 7.9 m, 0.3 m wg, 0.1 m br
Total Width: 8.6 m Net Width: 7.9 m No. of Lanes: 2
Rail Description: Timber railings on timber posts, with timber wheel guard in front Rail Code : 0110
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Wide, sandy bed on flat slope situated in bottom of relatively narrow canyon at outlet to the ocean. Tidally influenced; flow reversal. Bridge is on straight reach downstream of right bend, about 180 m from the outlet to the ocean.

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CONDITION TEXT

REVISIONS

NBI Item 37 - Historical Significance - for this bridge was updated due to an evaluation by the Caltrans Environmental Program to Code 2 (Eligible for National Register listing).

CONDITION OF STRUCTURE

The AC on the deck in Span 1 and 2 has map pattern cracks with minor raveling in both lanes. There also are a few 2 to 3 ft (61-91 cm) diameter patches where potholes had occurred in both lanes.

The AC of the southbound lane in Span 3 and 4 has map pattern cracks and raveling.

The AC of the northbound lane in Span 16 has map pattern cracks and raveling in the right wheel line.

The following conditions have been noted in previous investigations and have not changed significantly:

There are numerous moderate random cracks in the AC riding surface on the timber deck.

The scuppers at the base of the wheel guards on the deck are plugged with dirt and weeds.

There is a 6 in. (15 cm) diameter spall with an exposed and corroded steel reinforcing bar on the east side of the south wall of the base of Tower 13-14.

There are patches of poison oak growing adjacent to the columns at the north end of the bridge under and beside the last three to four spans.

SPECIAL INVESTIGATION

Although the condition of the structure elements of this structure below the deck could not be properly evaluated during this routine inspection due to the height of the timber towers (over 100 ft tall on average), the bridge was closely inspected in April 1999 utilizing the SM&I Climb Team. The underside of the superstructure and the substructure were given a thorough visual inspection. The 1999 findings are as follows:

The bolted connections are acting as pins, and as long as they are in place, the bridge is in sound condition. If the nuts that retain the bolts should fail, there is a possibility that bolts will slide out of the connections. Currently, approximately 30% of the nuts of the bolted connections in the towers are in unsatisfactory condition due to corrosion from the marine environment. Based on the configuration of the timber bents, it has been determined that there are 50 bolts in the top horizontals, 60 bolts at the intermediate horizontals, 8 bolts in the intermediate cross-braces and 114 bolts in the bases; (and depending on the height) the quantities are as follows:

Bents 2-3, 4-5, and 6: 100 bolts.
Bents 7-8: 178 bolts.
Bents 9-10: 436 bolts.
Bents 15-16, 17-18, 19-20, 21-22 and 23-24: 2,560 bolts (512 per tower bent).
Bents 25-26 and 27-28: 888 bolts (444 per tower bent).
Bents 29-30: 379 bolts.
Bents 31-32: 178 bolts.
Bents 33-34: 100 bolts.

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CONDITION TEXT

Total: 4,819 bolts. Estimate 5,000 bolts and nuts for contract purposes.

Until the work is completed, the Bridge Crew should closely monitor the integrity of the connections and continue as before in replacing fasteners as needed.

PAINT CONDITION

The following conditions have been noted in previous investigations and have not changed significantly:

The main span steel deck truss is heavily rusted. The protective system recently applied (October, 2000) to this structure has already begun to fail. The paint has broken down in many places on the steel span. The paint system has failed under the assault of the marine environment.

Corrosion has caused section loss in several elements of the top bracing (see the description under heading FRACTURE CRITICAL INVESTIGATION). Layers of paint over expansive corrosion prevent an accurate measurement of the amount of section loss.

Spot rust and localized surface pitting with minimal or no section loss is present in most other truss elements and around the connections. No pack rust was found in the connections.

FRACTURE CRITICAL INVESTIGATION

This structure is fracture critical because of the lack of redundancy of the riveted steel deck truss main span. The Fracture Critical Investigation Team is responsible for inspection of the fracture critical steel elements of this bridge. The most recent Fracture Critical Investigation performed on this structure was on 04/05/06 using the Under Bridge Inspection Truck. The inspection of this structure consisted of an overall visual inspection with the following conditions noted:

Moderate-to-heavy expansive corrosion was found along the top chord of the steel trusses. No defect indications were found.

This structure is on a 24-month inspection cycle for Fracture Critical members/elements.

CHANNEL/WATERWAY INVESTIGATION

There were no substructure elements in the water at the time of the inspection. A visual inspection of all substructure elements was performed.

SCOUR

The following condition has been noted in previous investigations and has not changed significantly:

Local scour exists at Piers 12 and 13 due to tidal influence on the river flows.

Because these RC piers are the ones supporting the steel deck truss main span they should be monitored for any scour conditions that could affect their integrity.

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CONDITION TEXT

MISCELLANEOUS

The main span is a riveted steel deck truss that was recycled from an old bridge that had been located on the South Fork of the Feather River approximately 1.5 mi. downstream of Bidwell Bar. The strategy of encapsulating rust by multiple coats of paint has reached the end of its useful life. Due to the thickness of the paint system, it is difficult to determine the extent of section loss in the steel members. The heavy build up of paint precludes early detection of potential fatigue cracking.

Recommendations to repair or replace portions or all of the structure have been added to the backlog of Outstanding Work for this bridge over more than 20 years. The district established an Expenditure Authorization (EA), 01-40110X, in April 1999 to address many of these issues. A partial listing includes:

1.) Replace the wood bridge rail.
2.) Remove and replace the bolted connections and hardware throughout the entire timber sub-structure.
3.) Replace the top left horizontal timber element between Bent 15 and Bent 16.
4.) Remove the existing paint system from the steel main span to allow for fracture critical inspections and then repaint.
5.) Replace the steel main span:
6.) Or, replace the entire structure.

This project was included in the district's Ten Year SHOPP Plan. It has not been programmed for funding; the EA is currently suspended. No work is under way to deal with most of the outstanding Work Recommendations that have been consolidated under this EA, except for Item Number 2 that the district Bridge Maintenance Crew is handling.

A Structure Maintenance & Investigations Peer Review in August 2007 unanimously reaffirmed replacement of the structure as the preferred engineering and most fiscally responsible alternative to ensure the safety and reliability of this critical link of the state highway system. The decision to recommend replacement was based on the significant cost to upgrade the bridge and the need for future preventive maintenance, including repainting the structure every five years.

ELEMENT INSPECTION RATINGS

F#Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101 32	Timber Deck - w/ AC Overlay	3	2511	sq.m.	0	2511	0	0	0
101 117	Timber Stringer	3	5092	m.	5092	0	0	0	0
101 131	Painted Steel Deck Truss	4	79	m.	0	0	0	79	0
101 152	Painted Steel Floor Beam	4	55	m.	0	55	0	0	0
101 205	Reinforced Conc Column or Pile Extension	3	8	ea.	0	8	0	0	0
101 206	Timber Column or Pile Extension	3	134	ea.	0	134	0	0	0
101 215	Reinforced Conc Abutment	3	17	m.	17	0	0	0	0
101 227	Reinforced Conc Submerged Pile	2	1	ea.	1	0	0	0	0
101 228	Timber Submerged Pile	2	1	ea.	1	0	0	0	0
101 234	Reinforced Conc Cap	3	34	m.	34	0	0	0	0
101 235	Timber Cap	3	248	m.	248	0	0	0	0
101 304	Open Expansion Joint	2	17	m.	17	0	0	0	0
101 311	Moveable Bearing (roller, sliding, etc.)	2	2	ea.	0	2	0	0	0
101 313	Fixed Bearing	2	2	ea.	0	2	0	0	0
101 332	Timber Bridge Railing	3	591	m.	591	0	0	0	0

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F#Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101 358	Deck Cracking	2	1	ea.	0	1	0	0	0
101 361	Scour	2	1	ea.	0	1	0	0	0
101 363	Section Loss	4	1	ea.	0	1	0	0	0

WORK RECOMMENDATIONS

RecDate: 09/25/2007 Action : Deck-Repair Potholes Work By: BRIDGE CREW Status : PROPOSED	EstCost: $7,800 StrTarget: 2 YEARS DistTarget: EA:	Repair the AC on the deck in Span 1 and 2 that has map pattern cracks with minor raveling in both lanes. Repair the AC of the southbound lane in Span 3 and 4 that has map pattern cracks and raveling. Repair the AC of the northbound lane in Span 16 that has map pattern cracks and raveling in the right wheel line.
RecDate: 09/25/2007 Action : Remove Vegetation Work By: DISTRICT Status : PROPOSED	EstCost: $ StrTarget: 2 YEARS DistTarget: EA:	Eradicate the patches of poison oak growing adjacent to the columns at the north end of the bridge under and beside the last three to four spans.
RecDate: 03/28/2007 Action : Seismic-Retrofit Work By: STRAIN Status : PROPOSED	EstCost: $1,270,000 StrTarget: 2 YEARS DistTarget: EA:	Steel truss members may require strengthening. Priority 4. Final Score 2.8125.
RecDate: 08/28/2003 Action : Deck-Misc. Work By: BRIDGE CREW Status : PROPOSED	EstCost: $1,000 StrTarget: 2 YEARS DistTarget: EA:	Clean out the scuppers at the base of the wheel guards on the deck that are plugged with dirt and weeds.
RecDate: 11/06/2002 Action : Sub-Misc. Work By: BRIDGE CREW Status : PROPOSED	EstCost: $20,000 StrTarget: 2 YEARS DistTarget: EA:	Continue the ongoing program of replacement of timber fasteners.
RecDate: 04/05/1999 Action : Paint-Full prep/Pain Work By: PAINT CREW Status : PROPOSED	EstCost: $330,050 StrTarget: 2 YEARS DistTarget: EA:	The strategy of encapsulating rust by multiple over coating of the paint system has reached the end of its useful life. Due to the thickness of the paint system, it is difficult to determine the extent of section loss in the steel members. The heavy build up of paint precludes early detection of potential fatigue cracking. Remove the existing paint system from the steel main span, to allow for fracture critical inspections, and then repaint. Estimated at 9,500 square feet x $35 per sq. ft. = $332,500 (NOT including traffic handling costs).
RecDate: 04/05/1999 Action : Bridge-Replace Work By: STRAIN Status : PROPOSED	EstCost: $13,200,000 StrTarget: 2 YEARS DistTarget: EA:	Replace the steel main span. Estimated at $2,000,000 (NOT including traffic handling costs). Or, replace the entire structure. Estimated at $13,200,000.

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WORK RECOMMENDATIONS

RecDate: 07/01/1986 Action : Sub-Misc. Work By: STRAIN Status : PROPOSED	EstCost: $1,500,000 StrTarget: 2 YEARS DistTarget: EA:	Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, plates, etc) throughout the entire timber sub-structure. Replace the top left horizontal timber element between Bent 15 and Bent 16.
RecDate: 02/10/1984 Action : Railing-Upgrade Work By: STRAIN Status : PROPOSED	EstCost: $1,009,000 StrTarget: 2 YEARS DistTarget: EA:	F1-10 / F2-6 / F3-1 / Rail Type-WOOD. Replace the bridge rail.

Inspected By : T. Sandoval

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
MICHAEL WAYNE JOHNSON
No. C 56644
Exp. 06/30/09
CIVIL
STATE OF CALIFORNIA

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STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **10 0136**
(5) INVENTORY ROUTE(ON/UNDER)- ON 131000010
(2) HIGHWAY AGENCY DISTRICT 01
(3) COUNTY CODE 045 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- ALBION RIVER
(7) FACILITY CARRIED- STATE ROUTE 1
(9) LOCATION- 01-MEN-001-43.74
(11) MILEPOINT/KILOMETERPOINT 43.74
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000101
(16) LATITUDE 39 DEG 13 MIN 34 SEC
(17) LONGITUDE 123 DEG 46 MIN 09 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
TYPE- TRUSS - DECK CODE 309
(44) STRUCTURE TYPE APPR:MATERIAL- WOOD OR TIMBER
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 33
(107) DECK STRUCTURE TYPE- TIMBER CODE 8
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1944
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 3200
(30) YEAR OF ADT 2000 (109) TRUCK ADT 8 %
(19) BYPASS, DETOUR LENGTH 51 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 39.6 M
(49) STRUCTURE LENGTH 295.4 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.9 M
(52) DECK WIDTH OUT TO OUT 8.6 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.9 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- BR PERMIT REQ CODE 1
(111) PIER PROTECTION- NOT REQUIRED CODE 1
(39) NAVIGATION VERTICAL CLEARANCE 50.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 35.7 M

****

SUFFICIENCY RATING = 68.2
STATUS FUNCTIONALLY OBSOLETE
HEALTH INDEX 78.6
PAINT CONDITION INDEX = 35.5

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MINOR ARTERIAL RURAL 06
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- STATE HIGHWAY AGENCY 01
(22) OWNER- STATE HIGHWAY AGENCY 01
(37) HISTORICAL SIGNIFICANCE- ELIGIBLE 2

********** CONDITION ********** CODE

(58) DECK 5
(59) SUPERSTRUCTURE 6
(60) SUBSTRUCTURE 6
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- M-13.5 OR H-15 2
(63) OPERATING RATING METHOD- ALLOWABLE STRESS 2
(64) OPERATING RATING- 49.9
(65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2
(66) INVENTORY RATING- 30.8
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 6
(68) DECK GEOMETRY 3
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0110
(113) SCOUR CRITICAL BRIDGES 5

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- DECK REPLACEMENT CODE 37
(76) LENGTH OF STRUCTURE IMPROVEMENT 295.4 M
(94) BRIDGE IMPROVEMENT COST $2,032,000
(95) ROADWAY IMPROVEMENT COST $203,000
(96) TOTAL PROJECT COST $3,049,000
(97) YEAR OF IMPROVEMENT COST ESTIMATE 1999
(114) FUTURE ADT 6573
(115) YEAR OF FUTURE ADT 2029

********** INSPECTIONS **********

(90) INSPECTION DATE 09/07 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- YES 24 MO A) 04/06
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

ClibPDF - www.fastio.com

Bridge Number : 10 0134 | Total Length: 208.8 | Permit Rating: POOXX | Suff Rating : 49.70
Feat Intersected: SALMON CREEK | Total Width : 9.8 | Rail Rating : 0000 | Approach Width: 8.8
Stucture Name : SALMON CREEK | Location : 01-MEN-001-43 | STRUCTURALLY DEFECIENT

Item	Recom. Date	Project Type	Urgency Factor	Cost	Status	Tech. rank
1	02/10/1984	62 - Railing-Upgrade	2 years	$725,000	1 - Initiated	1.22
2	03/28/2007	70 - Seismic-Retrofit	2 years	$1,018,000	1 - Initiated	2.19
3	07/01/2002	80 - Bridge-Replace	2 years	$12,068,000	1 - Initiated	46.64

Project Details :

1 F1-06 / F2-0 / F3-5 / Rail Type-SR. Replace the bridge rail.

2 Steel truss members may require strengthening. Priority 4. Final Score 2.1875.

3 THIS AGING STRUCTURE IS IN A MARGINAL AND DETERIORATING CONDITION. IT IS FUNCTIONALLY OBSOLETE, HAS A LOW LOAD RATING, AND IS AN INAPPROPRIATE DESIGN FOR THE ENVIRONMENT. THE LIFE CYCLE ECONOMIC COST OF ADEQUATE MAINTENANCE DOES NOT COMPARE FAVORABLY WITH COST OF REPLACEMENT WITH A STRUCTURE TYPE BETTER SUITED TO THE ENVIRONMENT.

IT IS THEREFORE URGENTLY RECOMMENDED THAT THIS STRUCTURE BE REPLACED. AN SM&I PEER REVIEW IN AUGUST 2007 REAFFIRMED THE RECOMMENDATION THAT THIS BRIDGE BE REPLACED.

Bridge Number : 10 0136 | Total Length: 295.4 | Permit Rating: POOXX | Suff Rating : 68.20
Feat Intersected: ALBION RIVER | Total Width : 8.6 | Rail Rating : 0110 | Approach Width: 7.3
Stucture Name : ALBION RIVER | Location : 01-MEN-001-43.74 | FUNCTIONALLY OBSOLETE

Item	Recom. Date	Project Type	Urgency Factor	Cost	Status	Tech. rank
1	07/01/1986	29 - Sub-Misc.	2 years	$1,500,000	1 - Initiated	51.21
2	02/10/1984	62 - Railing-Upgrade	2 years	$1,009,000	1 - Initiated	16.31
3	03/28/2007	70 - Seismic-Retrofit	2 years	$1,270,000	1 - Initiated	2.81
4	04/05/1999	80 - Bridge-Replace	2 years	$13,200,000	1 - Initiated	51.21

Project Details :

1 Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, plates, etc) throughout the entire timber sub-structure. Replace the top left horizontal timber element between Bent 15 and Bent 16.

2 F1-10 / F2-6 / F3-1 / Rail Type-WOOD. Replace the bridge rail.

3 Steel truss members may require strengthening. Priority 4. Final Score 2.8125.

4 Replace the steel main span. Estimated at $2,000,000 (NOT including traffic handling costs). Or, replace the entire structure. Estimated at $13,200,000.

ATTACHMENT G

PRELIMINARY MATERIALS
RECOMMENDATION

State of California Business, Transportation and Housing Agency

Memorandum

To: Ilene Poindexter
Division Chief,
Advance Planning

Date: November 25, 2008

Attn: Johnathon Jackson

File: 01-MEN-1-PM 43.3/44.1
01-40110K
Albion River Br. #10-0136
201.110
Bridge Rehabilitation

From: **DEPARTMENT OF TRANSPORTATION - North Region**
Wesley D. Johnson - North Region, Eureka Materials
Wesley D. Johnson

Subject: Preliminary Materials Recommendation

In response to a request from Johnathon Jackson of your office, dated October 10, 2008, the project history files in the Eureka Materials Lab were reviewed for a determination of R-value (resistance to deformation) from previous work within the limits of the project area. Due to the response time requested and the developmental phase of the project, no soil sampling was conducted. A review of a nearby realignment project to the south at Post Mile 42.5 (EA 01-149004) indicated R-values of the original soils ranging from of 18 to 65 at or near this location of State Route 1. For the purposes of this report, an assumed R-value of 20 and a 20 year Traffic Index of 9.0 which was provided by the Office of Traffic Forecasting and Modeling was used for calculation of the structural section.

Existing Structural Section

A review of the Materials Laboratory's Structural Section History Files and the "as-built" project files indicate various layers of Asphalt Concrete (AC) totaling approximately 0.67 feet and placed on combinations of Cement Treated Base (CTB) and Aggregate Base (AB). This section of roadway was surfaced in 2001 with 0.08 feet (25mm) of OCAC by EA 01-413504. See Attachment "A" for limits, types, age, and

REGISTERED PROFESSIONAL ENGINEER
WESLEY D. JOHNSON
C66006
EXP. 06/10/12
CIVIL
STATE OF CALIFORNIA

Wesley D. Johnson

thicknesses of existing AC. If existing structural section thicknesses at specific locations are required, please request coring services from this office.

New Structural Sections for Mainline & Shoulders:

Based on an assumed R-value of 20, and a 20 year traffic index of 9.0, the following structural section strategies are recommended for mainline traffic and shoulders. Each strategy is structurally equivalent.

Strategy	OGFC	HMA (Type A)	AB (Class 2)	AS (Class 2)
1	0.17′	0.45′	0.75′	0.70′
2	0.17′	0.45′	1.35′	----
3	0.17′	1.05′	----	----

Notes:

- Local or imported borrow used to construct embankment, must meet a minimum R-value of 25 when placed within 4 feet of finished grade.

- For structural sections designed to last 20 years, the alternative to use full depth HMA (Type A) should be considered for special situations only. This would include, but not be limited to, narrow widening, shallow utilities coverage, or shortening traffic control periods.

- When a widened shoulder or new structural section is constructed to adjoin an existing structural section, geosynthetic pavement interlayer (GPI) should be placed so that it will overlap the new/existing joint by 2 feet on each side. Placement of the GPI should be as low in the HMA as possible and on the same plane for both the existing structural section and the new structural section. This will help prevent reflective cracking from the underlying joint. Please see Attachment "B" for detail.

- Use a material transfer vehicle (MTV) to deliver HMA-A and OGFC directly from the truck to the paver's receiving hopper or feed system. The MTV must:

  1. Remix the HMA or OGFC before loading the paver.
  2. Be self propelled and independent of the paver.
  3. Have a minimum capacity of 20 tons.

Material Specifications

- Hot Mix Asphalt (HMA): Shall be Type A (HMA-A), conforming to revised Section 39 of the Standard Specifications. See Attachment "C" for a recommendation of grading size versus lift thickness.

- Hot Mix Asphalt Open Graded Friction Course (OGFC) shall be 1 inch gradation and shall conform to revised Section 39 of the Standard Specifications.

- Paint Binder (Tack Coat): Shall conform to revised Section 39 of the Standard Specifications.

- Asphalt Binder: Shall be PG 64-16 for hot mix asphalt (HMA-A) and PG 58-34 PM for OGFC. The estimated percentage of asphalt to be added per dry weight of aggregate is 5.5% for 3/4 inch HMA-A and 5.8% for 1/2 inch HMA-A. The estimated percentage of asphalt to be added per dry weight of aggregate is 4.5% for 1 inch OGFC. OGFC shall be treated with liquid anti-strip at a rate of 0.5% by mass of asphaltic binder (PG 58-34 PM).

- Asphalt Concrete Dike: Hot Mix Asphalt used in the construction of dikes shall be Type A (HMA-A), 3/8 inch, conforming to revised Section 39 of the Standard Specifications. Asphalt binder used in construction of dikes shall conform to the standard special provisions for PG 70-10. Please see Attachment "D" for construction details for modified dike installation when open graded friction course is placed.

- Aggregate Base (AB): Shall be Class 2, conforming to Section 26 of the Standard Specifications with the following changes: The Durability Index per California Test Method 229 shall be 25 minimum and the minimum loose unit weight per California Test Method 212, Compacted Method (by rodding) shall be 105 lb/ft^3.

- Aggregate Subbase (AS): Shall be Class 2, conforming to Section 25 of the Standard Specifications.

- Shoulder Backing: Shall conform to the requirements within the Standard Special Provisions for shoulder backing, with the following change: The minimum loose unit weight per California Test Method 212a, (Compacted Method (by rodding)) shall be 105 lbs/ft^3.

Alternative Pipe Culverts

Based on historic data on soil pH and resistivity testing from locations near the limits of this project, the following alternative pipe culverts are recommended for a 50 year service life.

- Reinforced Concrete Pipe may be used with the following addition to Section 65 of the Standard Specifications: Type II modified or Type IP cement shall be used with a maximum water-to-cement ratio of 0.45.

- 0.138" (10 gage) galvanized, corrugated steel pipe conforming to

Section 66 of the Standard Specifications.

- 0.079" (14 gage) galvanized, polymeric sheet coated, corrugated steel pipe conforming to Section 66 of the Standard Specifications.

- Plastic pipe - Shall be high density polyethylene (HDPE), conforming to Section 64 of the Standard Specifications. Reference should be made to durability in Section 854.8 of the Highway Design Manual.

See Attachment "E" or "F" for culvert installation details.

If you have any questions, please call me at (707)445-6386 or Dave Waterman at (707)445-6355.

Attachments

WJ:wj

cc: I. Poindexter
J. Jackson
J. Pimentel
V. Langtry
G. Kim Tell
Lab Files

01-MEN-1 PM 43.3 / 44.1
01-40110K

Attachment A

01-113504

25 mm 0.6AC

01-377104
Seal Coat (Mod.)

197681

0.25' AC (TYPE B)

0.25' AC (TYPE B)

01-194284 0.10'AC
Ft. Conc Curb 0.30'AC/
0.25'AB/1.25'AS

0.08' A.C.

64-1T15C1

63-6HU38C01-01

60-1KC1

Seal Coat

Seal Coats/1.25' Base

0.10'AC/1.0'-1.5' Base S.C.

Seal Coats/0.50'-0.75' Base

0.50 Gravel- Crushed

Various Pea Gravel Seal Coats

Gravel 0.50'

Junction Route 128

PROJECT LOCATION

01-136004 0.25'AC/0.45'AB

01-122034 0.20'AC/1.00'AB

01-122044 0.45'AC/1.00'AB

Buckhorn Rd

FM 1374

FM 1393

POST MILE

41 42 43 44 45 46 47

2000 90 80 70 60 50 40 30 20

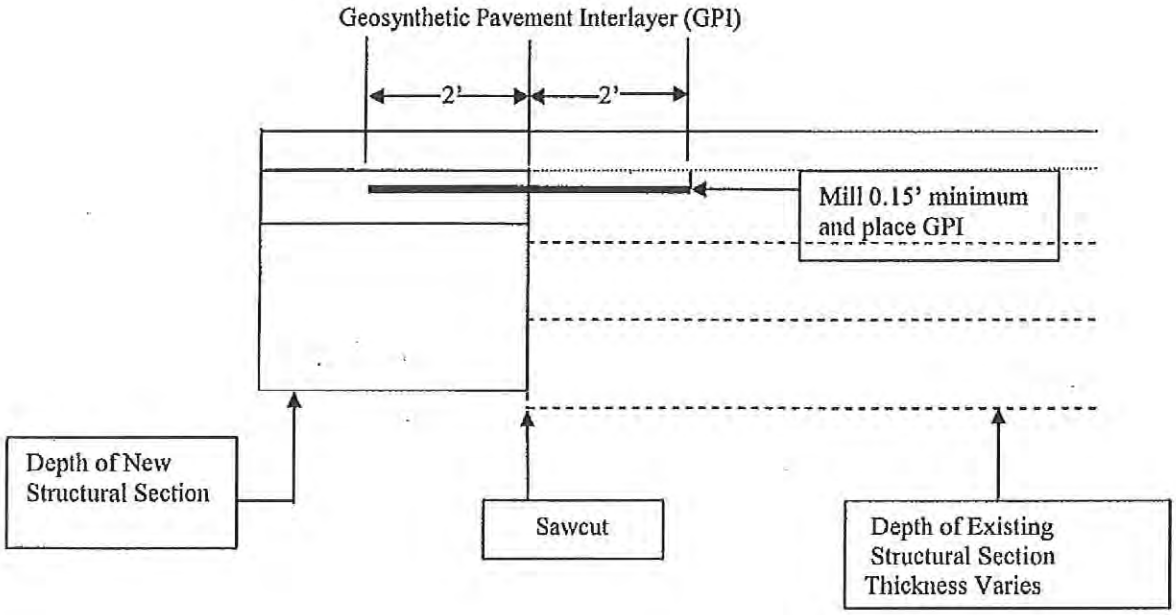
YEAR 2011

DIST. COUNTY ROUTE POST MILES
01 MEN 001 30.1/48.8

Attachment B

01-MEN-1 PM 43.3 / 44.1
01-40110K

Structural Section and Geosynthetic Pavement Interlayer (GPI) Detail



NO SCALE

Attachment C

01-MEN-1 PM 43.3 / 44.1
01-40110K

Aggregate Size and Layer Thickness
Hot Mix Asphalt (HMA) Type A

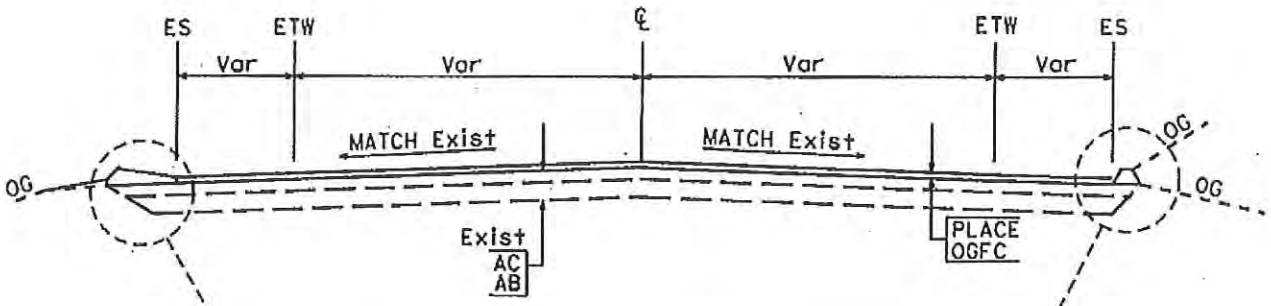
Use the following table to determine the grading:

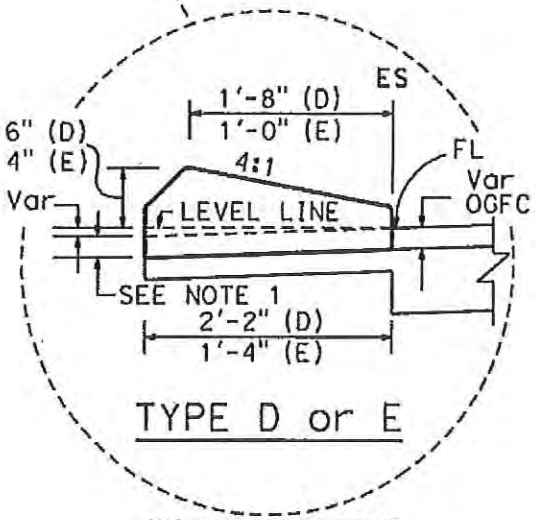
Lift Thickness Range	Grading
0.08 foot – 0.125 foot	3/8 inch
0.125 foot – 0.20 foot	1/2 inch
0.20 foot and above	3/4 inch

ATTACHMENT D

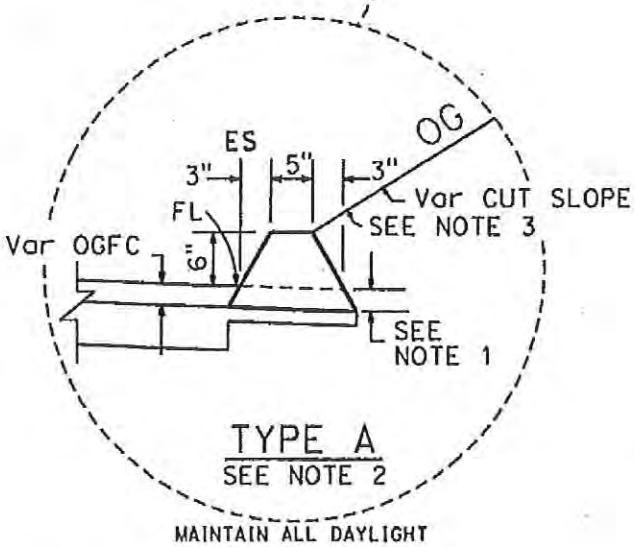
01-MEN-1 PM 43.3 / 44.1
01-40110K

MODIFIED HMA DIKE





MAINTAIN ALL DAYLIGHT DIKE DIMENSIONS



MAINTAIN ALL DAYLIGHT DIKE DIMENSIONS

HOT MIX ASPHALT DIKE TYPICAL WHEN PLACED WITH OGFC

NOTES:

1. THE ADDITIONAL HEIGHT OF DIKE SHALL BE EQUIVALENT TO THE DEPTH OF OGFC.
2. TYPE A DIKE ONLY TO BE USED WHERE RESTRICTIVE SLOPE CONDITIONS DO NOT PROVIDE ENOUGH WIDTH TO USE TYPE D OR TYPE E DIKE.
3. FILL AND COMPACT WITH EXCAVATED MATERIAL TO TOP OF DIKE.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	* 0.0135
C	* 0.0038
D	* 0.0293
E	* 0.0130
F	* 0.0066

QUANTITIES BASED ON 5% CROSS SLOPE

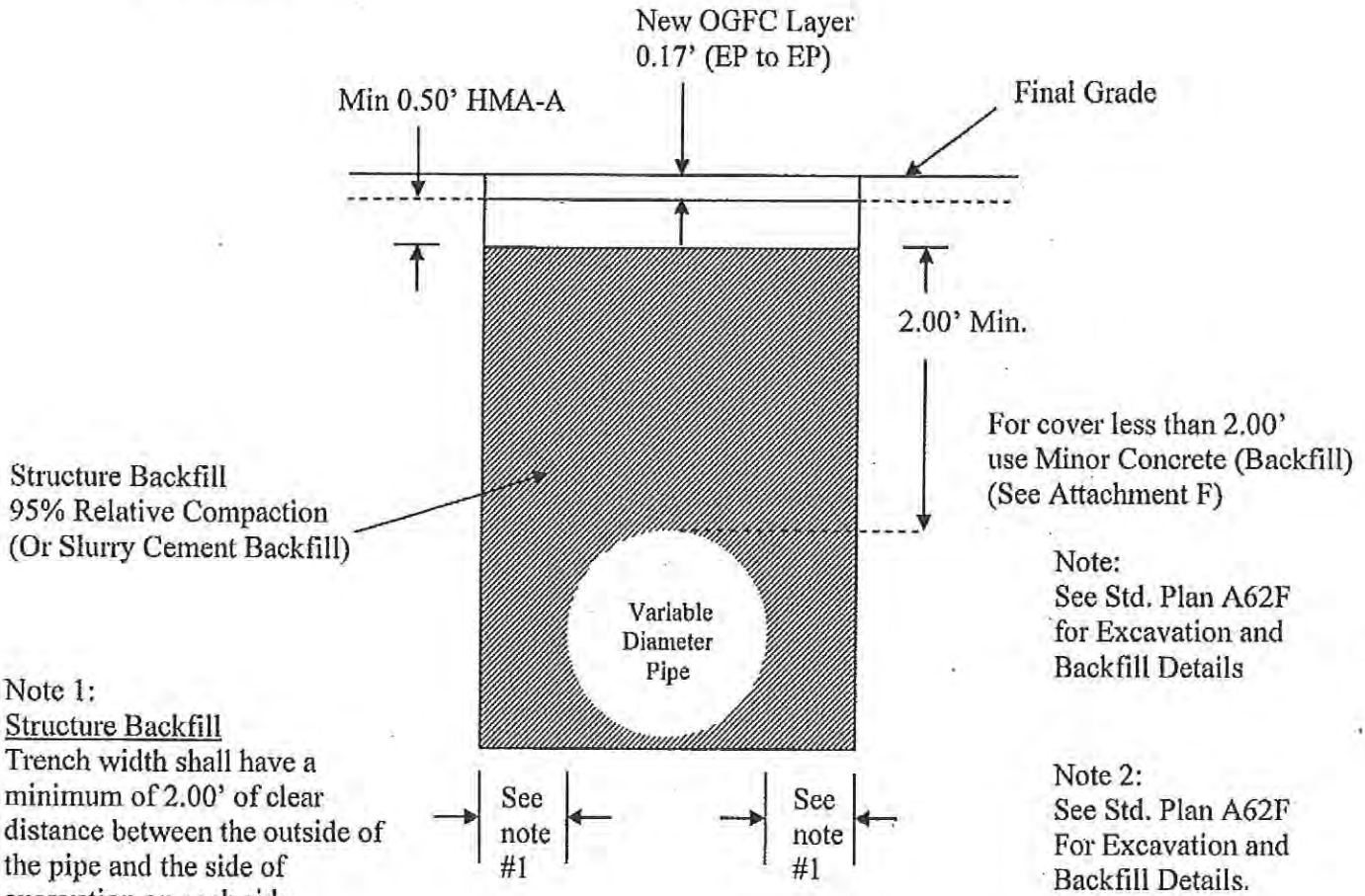
* ADJUST QUANTITY TO COMPENDATE FOR OGFC DEPTH/HMA DIKE HEIGHT EXTENSION

NO SCALE

Attachment E

Structure Backfill, or Slurry Cement Backfill

01-MEN-1 PM 43.3/44.1
01-40110K



Note:
See Std. Plan A62F
for Excavation and
Backfill Details

Note 1:
Structure Backfill
Trench width shall have a minimum of 2.00' of clear distance between the outside of the pipe and the side of excavation on each side.

Note 2:
See Std. Plan A62F
For Excavation and
Backfill Details.

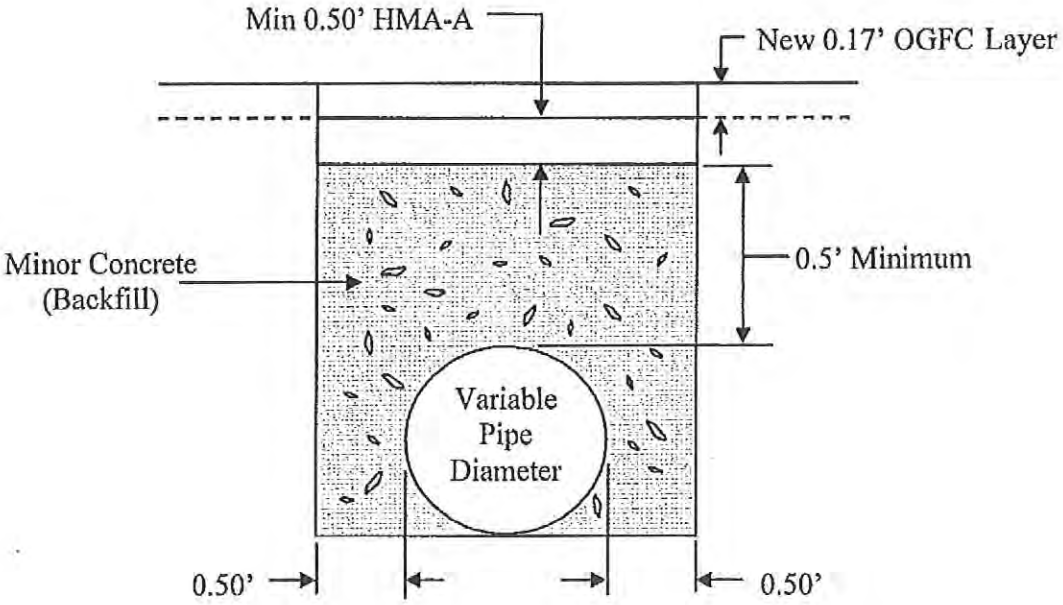
Slurry Cement Backfill
Trench width shall be a minimum of 0.50' beyond outside edge of pipe and the side of excavation on each side for pipe diameters up to and including 42", or 1.00' for pipes over 42" in diameter.
See Standard Specifications 19-3.062

NO SCALE

Attachment F

01-MEN-1 PM 43.3/44.1
01-40110K

Minor Concrete (Backfill)



NO SCALE

ATTACHMENT H

INITIAL SITE ASSESSMENT (ISA)

State of California Business, Transportation and Housing Agency

Memorandum

To: Jonathon Jackson
Project Engineer
1656 Union Street
Eureka CA 95501

Date: November 14, 2008

File No: 01-Men-01
PM 443.3/44.1
Bridge Replacement
Albion River Bridge,
Bridge #10-0136

EA: 01-40110K

From: DEPARTMENT OF TRANSPORTATION
Office of Environmental Engineering – South (OEES)

Subject: Initial Site Assessment (ISA)

Per your request, OEES has prepared this ISA for the above referenced project. The project proposes to replace/rehabilitate the above referenced bridge located near the town of Albion. Potential work includes bridge demolition and construction, drainage system modifications, and earthwork. Soil and vegetation will be disturbed during construction. Excess material may need to be disposed of offsite. New r/w and/or temporary construction easements will be needed.

Based on this review a Preliminary Site Investigation (PSI) including a structural survey of the existing bridge is required for this project. Please include 160 hours under WBS 165.10.50 and $13,500 in the project budget to cover our time and the consultants cost to complete the PSI. Once the PSI is requested it will take from 3 to 5 months to complete the field investigation and final report. Ideally, the PSI should be completed by PAED.

If there are any significant changes to the project scope, or if new information is identified, please contact the OEES, as soon as reasonably possible so the significance of the information and the need for additional studies can be assessed. If you have any questions or comments, please feel free to call me at (530) 741-4556.

Mark Melani,
Office of Environmental Engineering – South

cc: File

ATTACHMENT I

LANDSCAPE ARCHITECTURAL ASSESSMENT SHEET (LAAS)

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. 3/03)

TO: Johnathon Jackson **FROM:** Jim Hibbert **Unit/Senior TE Name:** 03-341/Ron Flory **Project Manager:** Grace Tell	**CO:** MEN **DISTRICT:** 01 **DATE:** 11/13/08 **EA:** 01-01-40110K	**RTE:** 1	**KP:**	**PM:** 43.3/44.1
PROJECT SEPARATION: ☒ Landscape as part of roadway work EA ☐ Landscape under separate EA (Follow-up)	**PROJECT:** Albion River Bridge Replacement **TYPE:** SHOPP **PROJECT MILESTONE:** PID			

PROJECT DESCRIPTION: Two alternatives are being evaluated to replace the Albion River Bridge. All alignments consist of two 12-foot travel lanes, two 6 to 8-foot shoulders, and 5-foot pedestrian walkways with barrier on the east and west sides of the structure. Alternative 1 is located west of the existing Albion River Bridge. It is 1,361 feet long and 150 feet to 160 feet high. Alternative 2 is located east of the existing Albion River Bridge. It is 1,037 feet long and 150 feet to 160 feet high. Both alternatives will likely allow two traffic lanes to remain open during most of the construction.

AREA (YD2) FOR HIGHWAY PLANTING: Unknown at this time
AREA (YD2) FOR EROSION CONTROL: Unknown at this time
PLANT COUNT FOR MITIGATION PLANTING: Unknown at this time

LANDSCAPE FREEWAY STATUS: ☐ Yes ☒ No
HIGHWAY PLANTING IS: ☐ Warranted ☒ Not Warranted
SCENIC HIGHWAY STATUS: ☐ Officially Designated ☒ Eligible ☐ Not Designated
REVEGETATION REQUIRED? No ☒ Permit Required ☒ Offset of Visual Impact ☐ Other (Forest Service, BLM, etc.)

BIOLOGIST CONTACT: Rebecca Loeffler
DATE OF CONTACT: 11/13/08
REVEG. SPECIALIST CONTACT: Clare Golec

ADJACENCY TO BILLBOARDS:
☐ Project area is adjacent to outdoor advertising. ☒ Project area is not adjacent to outdoor advertising.

WATER AND POWER AVAILABILITY: N/A

IS THERE (E) IRRIGATION THAT WILL BE IMPACTED BY THIS PROJECT: ☐ Yes ☒ No

DESIGN FOR MAINTENANCE SAFETY: N/A

CONTEXT SENSITIVITY:
☒ It is determined that the project will involve consideration of highway aesthetics and will require further evaluations pertaining to specific roadside enhancements.

☐ No foreseen issues with highway aesthetics ☐ Other _____

COOPERATIVE MAINTENANCE AGREEMENTS:

Project may involve additional tasks indicated

☒ Visual Simulation	☒ Erosion Control	☒ SWPPP/NPDES
☒ Revegetation	☒ Field Visit	☒ Context Sensitive Solutions/Aesthetics
☒ Contour Grading	☒ Cost Estimate	☒ Landscape Evaluation

NORTH REGION
LANDSCAPE ARCHITECTURE ASSESSMENT SHEET
03-LAND-0002 (Rev. 3/03)

COST INFORMATION:	
☒ Revegetation Including Plant Establishment	**$400,000**
☒ Erosion Control	**$75,000**
☒ Slope Protection – Fiber Rolls	**$40,000**
☒ Aesthetic Treatment	**$ /m²**
	TOTAL $515,000

OTHER RELATED INFORMATION:
☐ Landscape Architecture Resource Estimate: Attached to this document.

ROADSIDE VEGETATION MANAGEMENT TREATMENT NEEDS:
☐ Extended Gore Areas
☒ Guardrails and Signs
☐ Medians
☐ Road Edge
☒ Side Slopes/Embankment Slopes
(See: http://www.dot.ca.gov/hq/LandArch/roadside/index.htm for potential treatment measures)

PREPARED BY: [signature] DATE: 11/14/08 CONCURRED BY: Mike Yancheff (Project Manager) DATE: 14 Nov 08

APPROVED BY: [signature] DATE: 11.14.08 (for Grace Kim Tell)
(Landscape Architecture or Engineering Services Branch Chief)

ATTACHMENT J

STORM WATER DATA REPORT

Caltrans

Dist-County-Route: 01-MEN-1

Post Mile (Kilometer Post) Limits: PM 43.33 – 44.16

Project Type: Albion River Bridge Replacement

EA: 01-40110K

RU: 01-216

Program Identification: 201.110

Phase: ☒PID ☐PA/ED ☐PS&E

Regional Water Quality Control Board(s): North Coast Regional Water Quality Control Board

Is the project required to consider incorporating Treatment BMPs? ☒Yes ☐No

If yes, can Treatment BMPs be incorporated into the project? ☒Yes ☐No

If No, a Technical Data Report must be submitted to the RWQCB at least 60 days prior to PS&E Submittal. List submittal date: _____

Total Disturbed Soil Area: 5.2 to 6.6 acres

Estimated Construction Start Date: 06/15/2014 Construction Completion Date: 07/01/2016

Notification of Construction (NOC) Date to be submitted: _____

Notification of ADL reuse (if Yes, provide date) ☐Yes Date: _____ ☒No

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

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

6/17/09

Jeffrey L. Pimentel, *Registered Project Engineer/Landscape Architect* Date

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

Grace Kim Tell 6/22/09

Grace Kim Tell *Project Manager* Date

6-17-09

Brett Johnson *Designated Maintenance Representative* Date

6-30-09

Jim Hibbert *Designated Landscape Architect Representative* Date

6/12/09

Ted Schultz *District/Regional SW Coordinator or Designee* Date

STORM WATER DATA INFORMATION

1. Project Description

The Albion River Bridge is located on State Route 1 in Mendocino County, from PM 43.74 to PM 43.92, in Albion, 3.4 miles north of the Route 128 junction.

Need:

The Albion River Bridge and approaching alignment have a number of structural and geometric deficiencies. The structure has a Sufficiency Rating of 69.30 percent and the Structure Replacement and Improvement Needs Report (STRAIN) Urgency Factor for replacement is two years.

Structural Deficiencies: The structure is fracture critical due to a lack redundancy of the steel truss deck members and is designated as Structurally Deficient due to the condition of the deck. The structure currently requires painting every 4 to 5 years at a cost of $2,500,000, and was last painted in 2004/2005. The paint coat is already starting to corrode at numerous lateral brace, floor beam, and gusset plate locations. The horizontal beam on the left side of tower 3-4 has severe section loss, and various members throughout both trusses have minor section loss. The structure currently requires spot preparation and painting at a cost of $100,000. The Peer Review Fact Sheet (dated 08/15/07) recommends stripping the existing coat to allow for fracture critical inspection. The existing rail has been recommended for replacement because it currently does not meet standards. To eliminate potential seismic vulnerability, strengthening of the steel truss members will need to be performed at a cost $1,018,000. There are several work recommendations to repair spalls and delaminations in the deck and substructure at a cost of $86,000. The life cycle economic cost of maintenance ($5.2 million) does not compare favorably with the cost of replacement with a structure type better suited to the environment.

Geometric Deficiencies

The Albion River Bridge is on the STRAIN Report as Functionally Obsolete due to a non-standard deck width.

Purpose:

The purpose of this project is to replace this functionally obsolete and structurally deficient bridge with a structure that will improve geometrics and structural integrity to ensure uninterrupted traffic movements in the event of a vehicular breakdown, seismic event, or other catastrophic failure. There is no interim retrofit work that can reduce the geometric and structural deficiencies of the existing structure.

Alternatives:

The following alternatives are being evaluated to replace the Albion River Bridge. All proposed replacement structures consist of two 12-foot travel lanes, two 8-foot shoulders, and 5-foot pedestrian walkways with barrier on the east and west sides of

the structure. The proposed roadway cross-section for all alternatives include two 12-foot lanes and 4-foot shoulders as specified by the Route Concept Report for this segment of highway.

Alternative 1: This alignment is located west and clear of the existing Albion River Bridge. The replacement structure is 1,020 feet long and 139 feet to 151 feet high. This alternative will likely allow two traffic lanes to remain open during most of the construction.

The proposed southern 2000-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of State Route 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway, thus, modifications will be required as a result of realigning State Route 1.

Alternative 2: This alignment is located east and clear of the existing Albion River Bridge. The replacement structure is 1,040 feet long and 140 feet to 153 feet high. This alternative will likely allow two traffic lanes to remain open during most of the construction.

The proposed southern 1900-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of State Route 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway. Albion River North Side Road will be connected to Albion Little River Road. Albion Little River Road will intersect the proposed State Route 1 realignment.

Alternative 3: This alignment is located west of the existing Albion River Bridge. The replacement structure is to be constructed in stages, and is 940 to 943 feet long and 140 feet to 151 feet high. This alternative will require one-way reversible traffic during the second stage of construction. The proposed centerline for Alternative 3 is 15 feet offset west at the south end of the structure and parallels the existing bridge alignment before deviating to the west.

The proposed southern 1950-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of State Route 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway, thus, modifications will be required as a result of realigning State Route 1.

A parallel east staged alignment is not proposed due to the inability to achieve standard sight distance at the north end of the structure.

Over the entire segment of the proposed project, new roadway structural section will increase the impervious area and require that the existing surface be disturbed. Reprofiling the vertical profile of the segment within the proposed project limits yields cut- and fill-slopes. The degree to which the proposed project will increase the impervious area and disturb the existing soils has been preliminarily quantified and summarized below.

ALTERNATIVE	PRE PROJECT IMPERVIOUS AREA	POST PROJECT IMPERVIOUS AREA	DISTURBED AREA
1	3.7 ACRES	5.7 ACRES	6.6 ACRES
2		4.9 ACRES	5.7 ACRES
3		5.1 ACRES	5.2 ACRES

The Albion River Bridge Replacement project limits are not within an urban MS4 area.

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

SW2-1. Topology within project limits consists of a moderate slopes with the bridge spanning a canyon with slopes steeper than 1:1. The bridge and all culverts along the project segment have been identified as being within the USGS Big-Navarro-Garcia Hydrologic Unit Code (#18010108), and within the Albion River Hydraulic Area (#113.40).

SW2-2. The project is located in the Mendocino Coast Hydrologic Unit, Albion River Hydrologic Area, Hydrologic Sub-Area # 113.40. USEPA has established a TMDL for sediment for the Albion River. The Albion River Watershed is comprised of the four following planning areas: Lower Albion, Middle Albion, South Fork, and Upper Albion. The Lower Albion planning watershed is comprised of the Railroad Gulch, Lower Albion River, and Albion River Estuary sub-watersheds. The project's facilities are within a range of 0.8 south and 0.3 miles north of the Albion River Estuary. The Upper Albion River merges with tributaries from Duck Pond Gulch, Slaughter House Gulch, Pleasant Valley, and Railroad Gulch to form the lower Albion River, which feeds into a lagoon about 2.2 miles east of the existing Albion River Bridge. The majority of the Albion River Bridge Replacement project drains into the Albion River. The Albion River enters the Pacific Ocean at Albion Cove 300 feet west of the existing bridge.

SW2-3. Based on the FY 2008-2009 District 1 Work Plan (DWP) listing, no high-risk areas are located within the project limits.

SW2-4. The North Coast Regional Water Quality Control Board (NCRWQCB) approved Resolution R1-2004-0087, Total Maximum Daily Load Policy Statement for Sediment Impaired Waters in the North Coast Region on November 29, 2004. The Policy identifies existing permitting and enforcement tools, specifically Section 401 Water Quality Certifications, as methods to control sediment pollution. The NCRWQCB 401 Certification states, "Proposed Storm Water Treatment Measures (Describe the methods proposed to treat storm water runoff from the project site prior to entering the storm drain system, wetlands, streams, etc.)" Albion River is referenced in the North Coast Regional Water Quality Control Board (NCRWQCB) approved Resolution R1-2008-0057, Regional Water Board Staff Work Plan to Control Excess Sediment in Sediment-Impaired Watersheds on June 12, 2008.

SW2-5. Environmental: Seasonal construction and construction exclusion dates are unknown at this time, but the project estimated construction time is 3 to 5 years. Coho, Chinook, and Steelhead inhabit Albion River.

SW2-6. With the previously described work in the streambed of Albion River, culverts and ditches, a Regional Water Quality Control Board 401 Certification is expected to be required for this project. Additionally, a 1601 Permit from California Department of Fish & Game, and a Section 404 Permit from the US Army Corp of Engineers is expected to be required as part of this project's scope of work. Consultations with US Fish & Wildlife Service, California Department of Fish and Game, Section 7 Consultation and National Marine Fisheries Service (NMFS), and United States Coast Guard are also anticipated.

SW2-7. Rainy season dates are from October 1st through May 1st.

SW2-8. The hydrological climate of the region was quantified in the CT Floodplain Analysis, Floodplain Evaluation Report Summary (FERS) and Background Hydraulics Information prepared for this project on November 18, 2008. Based on the findings of that review, the project area has an annual rainfall depth of approximately 31.06 inches. The report also states that the location of the abutment of the replacement structure is in an area defined as "moderate to low flooding...". The project lies within Zones A and C.

SW2-9. Properties of the existing soils were investigated using the U.S Department of Agriculture, Natural Resources Conservation Service's website. The Services' site provides a searchable database for multiple properties of the existing soils in a given area. Relevant properties that are available from this resource as they relate to the needs of this SWDR are hydraulic conductivity (permeability), erodibility and Hydrological Soil Group (HSG). A preliminary study shows the project transects the following 7 soil formations: Biaggi loam, Cabrillo-Heeser complex, Coastal beaches, Dystropepts, Heeser sandy loam, Urban land, and water. Hydrologic soil group (HSG), saturated hydraulic conductivity values (ksat), and soil erosion factor (Kw) are listed in the following table.

PM		Soil Name	HSG[1]	Saturated Hydraulic Conductivity (ksat)[3]	Soil Erosion Factor (Kw)[4]	Drainage Class
Align West	Align East		Group	10^{-6} m / sec		
43.33/43.55 43.92/43.97	43.33/43.55 43.73/43.76 43.86/43.93	Dystropepts	N / A	N / A	N / A	N / A
	43.80/43.86	Urban Land	N / A	N / A	N / A	N / A
43.73/43.74		Biaggi loam	B	9.2	0.32	Well Drained
43.55/43.66 43.97/44.16	43.55/43.66 43.93/44.16	Cabrillo-Heeser complex	C	28.2	0.24	Somewhat Poorly Drained
43.66/43.73	43.66/43.73	Heeser sandy loam	B	28.2	0.24	Somewhat Excessively Drained
43.74/43.92		Coastal Beaches	N / A	N / A	N / A	N / A
	43.76/43.80	Water	N / A	N / A	N / A	N / A

1. *HSG = Hydrological Soil Group*
2. *First and Second largest classes.*
3. units are micrometers per second

Very Low	0.00 to 0.01	Low	0.01 to 0.1
Moderately Low	0.1 to 1.0	Moderately High	1 to 10
High	10 to 100	Very High	100 to 705

4. Whole Soil Erodibility Factor Ranges from 0.02 to 0.69, 0.69 being most susceptible to erosion.

Based on the records of measurement for ground water well (#16N17W27F001M), the depth to the average depth varies from about 7 feet when measurements were taken during the rainy season to about 20 feet during the dry summer months.

SW2-10. An Initial Site Assessment (ISA) was completed for this project on November 14, 2008. Based on review, a Preliminary Site Investigation (PSI) is required for this project including a structural survey of the existing bridge.

SW2-11. The total disturbed soil for this project is estimated to be within 5.2 and 6.6 acres. See table on page 3.

SW2-12. Generally, the topography of the land adjacent to the project is mostly mountainous with some rolling hillsides encroaching into the highway alignment. The existing alignment has a number of vertical profile deficiencies to do not meet design standards. As a result, the highway alignment along this project is traverses through a number of cut- and fill-slopes. The elevation range over the course is between 120 and 180 feet and the maximum slope along the centerline is about 5%. Existing cut-slopes are as steep as a 1:1 and fill-slopes as steep as 1.5:1.

SW2-13. Permanent right-of-way acquisition (fee simple) is likely for the proposed alignment, cut- and fill-slopes, and location of the proposed replacement bridge. Temporary construction easements (TCE) will likely need to be obtained for contractor equipment operation and storage. Bridge construction may utilize a temporary bridge or trestle to transport a crane across Albion River for construction of the proposed replacement bridge. Encroachment permits will likely need to be acquired for work performed on county roads. The cost of obtaining these easements and permits are included in the cost estimate for the project.

SW2-14. Additional right-of-way acquisition, easements, and right-of-way entry for design, construction and maintenance BMPs is not believed to be an issue. Right-of-way acquisition for treatment BMPs is not anticipated.

SW2-15. Right-of-way certification is required for this project and is targeted for January 1, 2014.

SW2-16. Right-of-way for this project will be required for setbacks from top of slope to right-of-way boundary. Total estimated acquisition is between 3.6 and 5.8 acres.

SW2-17. New cut- and fill-slopes are anticipated. Potential for soil erosion and water quality issues will be a concern at cut and fill locations. Estimated cut volumes range between 51,000 and 23,000 cubic yards. Estimated fill volumes range between 22,000 and 15,000 cubic yards.

SW2-18. The majority of land use within project limits is primarily pasture and residential parcels.

SW2-19. No dry weather flows have been identified.

SW3-1. With further information (survey, environmental, and geotechnical) the alignment may be further refined to lessen impacts to the critical areas.

SW3-2. Bridges can be designed to minimize construction impacts. All four project alternatives include arch-type structures with no piers located in the stream.

SW3-3. Many of the methods under SW-3 (3) utilized to minimize erosion from slopes can be identified at the design level.

SW3-4. The project design will consider maintenance of all BMPs.

SW3-5. Construction scheduling can be performed so that the subject storm water conveyance conduits (streams, ditches, culverts etc) have the least exposure to storm water. Such scheduling would likely include measures such as those that reduce the risk of rainfall events coinciding with high-risk construction activities.

SW3-6. Permanent storm water pollution measures such as slope grading and erosion controls can be implemented early on in the construction process. Replacement of the Salmon Creek Bridge and possible demolition of the existing bridge will likely take 3 to 5 years. Road cuts and fills can be performed and stabilized in the early stages of construction. Stabilizing these slopes early on in the project will reduce erosion risk.

3. Regional Water Quality Control Board Agreements

The North Coast Regional Water Quality Control Board approved Resolution R1-2004-0087, Total Maximum Daily Load Policy Statement for Sediment Impaired Waters in the North Coast Region on November 29, 2004. The Policy identifies existing permitting and enforcement tools, specifically Section 401 Water Quality Certifications, as methods to control sediment pollution. Additionally, the 401 Certification requires consideration of, "Proposed Storm Water Treatment Measures (Describe the methods proposed to treat storm water runoff from the project site prior to entering the storm drainage system, wetland, streams, etc. Please include proper design calculations to indicate that the proposed methods will teat runoff form the 85th perctile/24-hour storm event See SUSMP Guidelines …)".

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

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

Based on the increase in impervious area within the project limits, an increase in runoff volume and velocity is expected as a result of the proposed construction. Storm water runoff from the project will predominantly flow into the Albion River or into the Pacific Ocean between Whitesboro Cove and Albion Head.

Storm water from the project area to the south of the bridge will travel 0.1 to 0.3 miles westward toward the ocean over "somewhat excessively drained" Heeser sandy loam, "somewhat poorly drained" Cabrollo-Heeser complex, "well drained" Biaggi loam, and Dystropepts and coastal beach material with no drainage information available. Drainage entering Albion River from the south will also encounter "somewhat excessively drained" Heeser sandy loam, "somewhat poorly drained" Cabrollo-Heeser complex, "well drained" Biaggi loam, and Dystropepts and coastal beach material. According to the Structure Preliminary Foundations Report (December, 22, 2009), the southern slope is composed mostly of sandstone. Soil conditions suggest the existence of aan old land slide on the south canyon slope. Near surface soils on the northern slope consist of predominantly very intensely weathered to decomposed sandstone with minor deposits of siltstone/claystone in the Dystropepts formation area. Surfacial deposits in this area consist of Pleistocene marine terrace, Colluvium, and landslide deposits. A 200-foot wide slide scar is located in the landslide deposit area and extends upslope about 100 feet. Storm water entering Albion River from the north will traverse across urban land and coastal beach material. Storm water from the project area to the north of the bridge will cross less than 0.1 miles westward toward the ocean at Albion Cove over coastal beach and Dystropepts material.

The flow entering Albion River will experience a more measurable increase in runoff as a result of this project. These increases in local runoff rates will be divided between storm runoff traveling overland to the ocean at the south and north ends of the project and storm water flowing into the Albion River channel. Such a division in storm water flow lessens the impact the project has because the increase is not concentrated to a single conveyance system.

The local impact on the existing conveyance systems can be avoided or minimized with BMPs such as erosion control materials, rock lining ditches, energy dissipaters, etc. Specific BMPs will be detailed at design stage for items on Checklist DPP-1, Part 2-5.

Slope/Surface Protection Systems, Checklist DPP-1, Parts 1 and 3

The proposed areas of cut and fill were quantified within the discussion for SW-2, 17 of this document. At the PID stage, the slopes, heights, and lengths of these areas are estimates. With further project development (i.e. PA&ED, PS&E), the specific details of these slopes will become more refined. These details would include design considerations such as rounding slopes, benches or stabilized

channels, which are identified in the Slope/Surface Protection Systems section of DPP-1, Part 3.

The total increase in impervious area was quantified at 1.2 to 2.0 acres.

Some existing vegetated surfaces along the project have been identified in the environmental document and concentrations of these surfaces can be seen on the aerial photos of the PSR. Areas of these vegetated surfaces that include sensitive habitats, if any, are identified in the Environmental Document. Revegetation of any disturbed areas, sensitive or not, will be required and will be identified at later stages of the project. Cost estimates for revegetation and erosion control are included in the Landscape Architect's estimates. Estimation of the amount of time that will be required for the disturbed areas to reestablish cover will be determined at design stage. Design of open channels will be addressed in later stages and will include features that minimize concentrated flow velocities and depths.

Concentrated Flow Conveyance Systems, Checklist DPP-1, Parts 1 and 4

HDM Topic 813-Channel and Floodplain Characteristics, Topic 836-Curbs and Gutters, and Chapter 860-Open Channels have been considered for ditches, berms, dikes, and swales. Ditches, berms, dikes and swales are expected to be features incorporated into the final design of the project. Where the installation of these elements is warranted, the specifics of the design will provide details and specifications that will address Design Pollution Prevention BMP to minimize scour, consider off-site runoff contributions, avoid overtopping, flow backups and washouts. The use of sheet flow drainage patterns will be maximized as feasible.

HDM 834.4-Overside Drains has been considered. The preliminary scope of the project calls for the installation or replacement of down drains located near the proposed replacement bridge abutments and canyon slopes. Final design will further investigate the appropriate installations of these features.

HDM Topic 827-Outlet Design has been considered for culvert outlets and inlets. Although not identified as being a feature at the PID level, flared culvert end section may be incorporated into the final design when the conditions call for such structures. Inclusion of these structures would satisfy design pollution prevention BMP consideration requirements.

HDM Topic 827-Outlet Design and Chapter 870 Channel and Shore Protection – Erosion Control have been considered for oulet protection/velocity dissipation devices. At the PID stage, the Hydraulics Unit has not identified outlet protection/velocity dissipation devices that need either repair or replacement. Further investigations are required for further structures design. Replacement bridge abutments will be designed by HQ Structures. Abutments will incorporate wingwalls as necessary. Wingwall outlets will be designed by District Hydraulics engineer. The costs associated with these modifications or replacements have been

Preservation of Existing Vegetation, Checklist DPP-1, Parts 1 and 5

Although specific measures to reduce the amount of clearing and grubbing will primarily be implemented at the design stage, some preliminary practices have been considered at the PID stage of the project. Specifically, the cut and fill slopes have been minimized to reduce the amount of exposed (non-vegetated, cleared) ground surfaces.

The PID document has also identified a location within the project limits where the installation of retaining walls will be required. And although the primary purpose of these structures are to avoid a cut into private property requiring full acquisition, the construction of these walls will preserve some of the existing, vegetated hillside and reduce the surface area of a cut slope.

The following table denotes where retaining walls are located:

ALTERNATIVE	LOCATION	LENGTH
1	42.96/42.99	160 FEET
	43.18/43.28	570 FEET
3	43.18/43.28	550 FEET

In addition to retaining walls noted in the previous table, additional retaining walls may be incorporated into the final bridge design at the Structure embankment approach.

Specific Best Management Practices that will preserve and protect environmentally sensitive vegetated areas identified in the Preliminary Environmental Assessment Report will be examined at the design stage. These areas will be delineated on the contract plans.

5. Describe Proposed Permanent Treatment BMPs to be used on the Project

The project does not discharge into any 303(d) listed water bodies; however, as indicated in the attached Evaluation Documentation Form, this project is required to evaluate permanent treatment BMPs under the 401 Certification program. Because the project is located in an area without a local MS4 Permit, the treatment BMP consideration strategy is to evaluate Low Impact Development (LID) type treatment BMPs such as biofiltration strips/swales, earthen type BMPs and traction sand traps as outlined in Timothy Sobelman's memo dated December 16, 2008 (see Appendix F).

Given that the project will increase the impervious surface in the project area, treatment best management practices (BMPs) will be required to address pollutant loading and hydromodification. Environmental recommends that scuppers be eliminated from the bridge if at all possible, if not, the scuppers should drain to land rather than the active channel. Off site treatment could be required if treatment BMPs are not feasible on site. The need for additional Right of Way should be evaluated early during project development so that there is adequate space for incorporation of treatment BMPs. If Caltrans is unable to commit to placement of treatment BMPs during the PA/ED phase, the additional sources of polluted runoff should be identified as an impact that would require mitigation to a less than significant level. A water quality study should be prepared.

6. Describe Proposed Temporary Construction Site BMPs to be used on Project

Selection of specific Temporary Construction Site BMPs will be incorporated into the project as part of the contractor prepared Storm Water Pollution Prevention Plan (SWPPP). As such and because of the lack of project design detail at this stage, Construction Site BMPs Checklist CS-1 has not been completed for the project. However, the Construction Site BMP Consideration Form has been completed and attached to the SWDR. From the Consideration Form responses, the following construction site BMP are applicable to this project:

CONSTRUCTION SITE BMP	EXAMPLE BMP TYPE
SOIL STABILIZATION (SS)	il binders, hydroseeding, geotextiles, earth dikes
SEDIMENT CONTROL (SC)	ber rolls, silt fence, gravel bag berm, sediment traps
TRACKING CONTROL (TC)	heel wash, stabilized roadway
WIND EROSION CONTROL (WE)	dro mulch, soil binders
NON-STORM WATER MANAGEMENT (NS)	mp stream crossing, clear water diversion, dewatering
WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL (WM)	ncrete wash, material use, spill prevention & control

The cost for construction site BMPs has been estimated using option 1, Percentage of Total Construction Cost, as shown in Appendix F of the Storm Water Project Planning and Design Guide.

7. **Maintenance BMPs (Drain Inlet Stenciling)**

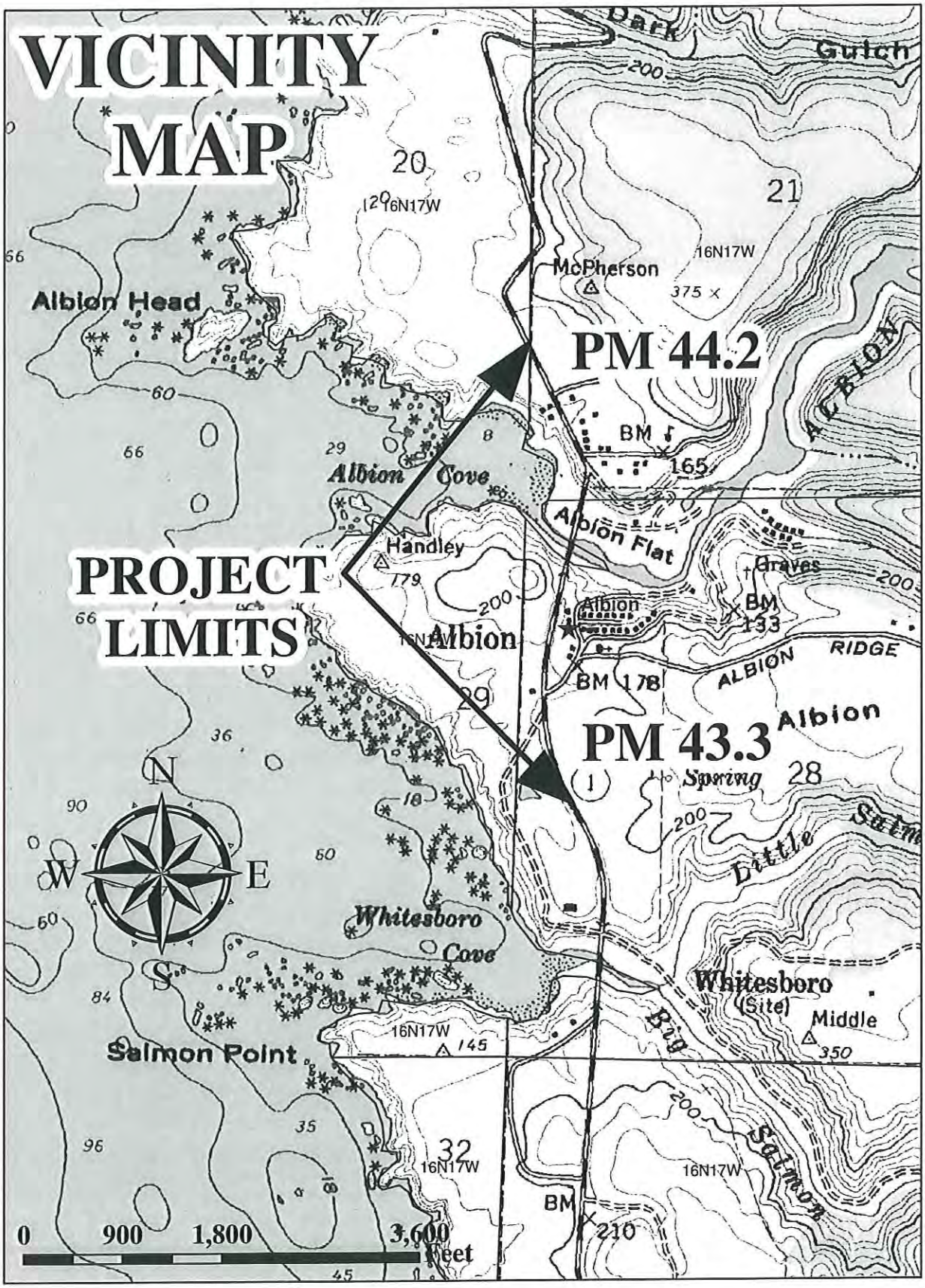
The Albion River Bridge Replacement project does not lie within communities with populations 10,000 or more, or an MS4 permit area. As such, stenciling of inlet structures would not be required as a Maintenance BMP.

REQUIRED ATTACHMENTS

⇒ **Vicinity Map**
⇒ **Evaluation Documentation Form (EDF)**
⇒ **Construction Site BMP Consideration Form**

SUPPLEMENTAL ATTACHMENTS

⇒ Checklist SW-1, Site Data Sources
⇒ Checklist SW-2, Storm Water Quality Issues Summary
⇒ Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
⇒ Checklists DPP-1, Parts 1–5 (Design Pollution Prevention BMPs) [only those parts that are applicable]
⇒ Checklists T-1, Parts 1–10 (Treatment BMPs) [only those Parts that are applicable]


VICINITY MAP
PROJECT LIMITS
PM 44.2
PM 43.3
Albion Head
Albion Cove
Handley
Albion
Albion Flat
Graves
McPherson
Albion Ridge
Whitesboro Cove
Salmon Point
Whitesboro (Site)
Middle
Little Salmon
Big Salmon
Spring
Dark Gulch
16N17W
N
S
E
W
0
900
1,800
3,600
Feet

DATE: 06/10/09

See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPS EA: 01-40110K

NO.	CRITERIA	YES	NO	SUPPLEMENTAL INFORMATION FOR EVALUATION
1.	Begin Project Evaluation regarding requirement for consideration of Treatment BMPs	☒		Go to 2
2.	Is this an emergency project?	☐	☒	If **Yes**, go to 11. If **No**, continue to 3.
3.	Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document.	☒	☐	If **Yes**, contact the District/Regional NPDES Coordinator to discuss the Department's obligations under the TMDL (if Applicable) or Pollution Control Requirements, go to 10 or 4. _____ *(Dist./Reg. SW Coordinator initials)* If **No**, continue to 4.
4.	Is the project located within an area of a local MS4 Permittee?	☐	☐	If **Yes**. (*write the MS4 Area here*), go to 5. If **No**, document in SWDR go to 5.
5.	Is the project directly or indirectly discharging to surface waters?	☐	☐	If **Yes**, continue to 6. If **No**, go to 11.
6.	Is this a new facility or major reconstruction?	☐	☐	If **Yes**, continue to 8. If **No**, go to 7.
7.	Will there be a change in line/grade or hydraulic capacity?	☐	☐	If **Yes**, continue to 8. If **No**, go to 11.
8.	Does the project result in a net increase of one acre or more of new impervious surface?	☐	☐	If **Yes**, continue to 10. If **No**, go to 9.
9.	Is the project part of a Common Plan of Development?	☐	☐	If **Yes**, continue to 10. If **No**, go to 11.
10.	Project is required to consider approved Treatment BMPs.	☒	See Sections 2.4 and either Section 5.5 or 6.5 for BMP Evaluation and Selection Process. Complete Checklist T-1 in this Appendix E.	
11.	Project is not required to consider Treatment BMPs. _____*(Dist./Reg. SW Coord. Initials)* _____*(Project Engineer Initials)* _____ *(Date)*	☐	Document for Project Files by completing this form, and attaching it to the SWDR.	

See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs

ALBION RIVER BRIDGE REPLACEMENT PROJECT DATE: 06-08-09

Project Evaluation Process for the Consideration of Construction Site BMPs EA: 01-40110K

NO.	CRITERIA	YES	NO	SUPPLEMENTAL INFORMATION
1.	Will construction of the project result in areas of disturbed soil as defined by the Project Planning and Design Guide (PPDG)?	☒	☐	If **Yes**, Construction Site BMPs for Soil Stabilization (SS) will be required. Complete CS-1, Part 1. Continue to 2. If **No**, Continue to 3.
2.	Is there a potential for disturbed soil areas within the project to discharge to storm drain inlets, drainage ditches, areas outside the right of way, etc?	☒	☐	If **Yes**, Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 2. Continue to 3.
3.	Is there a potential for sediment or construction related materials and wastes to be tracked offsite and deposited on private or public paved roads by construction vehicles and equipment?	☒	☐	If **Yes**, Construction Site BMPs for Tracking Control (TC) will be required. Complete CS-1, Part 3. Continue to 4.
4.	Is there a potential for wind to transport soil and dust offsite during the period of construction?	☒	☐	If **Yes**, Construction Site BMPs for Wind Erosion Control (WE) will be required. Complete CS-1, Part 4. Continue to 5.
5.	Is dewatering anticipated or will construction activities occur within or adjacent to a live channel or stream?	☒	☐	If **Yes**, Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 6.
6.	Will construction include saw-cutting, grinding, drilling, concrete or mortar mixing, hydro-demolition, blasting, sandblasting, painting, paving, or other activities that produce residues?	☒	☐	If **Yes**, Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 7.
7.	Are stockpiles of soil, construction related materials, and/or wastes anticipated?	☒	☐	If **Yes**, Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 8.
8.	Is there a potential for construction related materials and wastes to have direct contact with precipitation; storm water run-on, or stormwater runoff; be dispersed by wind; be dumped and/or spilled into storm drain systems?	☒	☐	If **Yes**, Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 9.
9.	End of checklist.	☒	Document for Project Files by completing this form, and attaching it to the SWDR.	

PE to initialize after concurrence with Construction (PS&E only) *Date*

ATTACHMENT K

RIGHT OF WAY DATA SHEET

State of California
Department of Transportation

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: Ilene Poindexter
Advance Planning Branch Chief
Department of Transportation, District 3

Attention Jeffrey Pimentel
Project Engineer

Date: July 9, 2009

File: 01-MEN-1 PM 43.3/44.2
E.A. 40110K
Alternate No. 1 - Replace structure west of existing alignment
Albion River Bridge Replacement

From: WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on information received from you on April 15, 2009 , and the following assumptions and limiting conditions.

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

County encroachment permits will be required and are to be obtained through Design.

Right of Way Lead Time will require a minimum of 17 months after we receive project first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of Way for certification. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Attachments:
Right of Way Data Sheet

cc. Grace Tell

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DATA SHEET

Date: July 9, 2009

01-MEN-1 PM 43.3/44.2
E.A. 40110K
Albion River Bridge Replacement

1. **Right of Way Cost Estimate:** **Alternate No. 1 - Replace structure west of existing alignment**

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	$846,779	5%	$1,176,153
B. Mitigation acquisition & credits	$1,740,000	5%	$2,416,814
C. Project Development Permit Fees	$9,000	5%	$12,501
Subtotal	$2,595,779		$3,605,468
D. Utility Relocation (State Share) (Owner's share: $135,000)	$0		$0
E. Relocation Assistance (RAP)	$0		$0
F. Clearance/Demolition	$0		$0
H. Title & Escrow	$11,350	5%	$15,765
I. Total Estimated Right of Way Cost	$2,607,129	Rounded	**$3,621,000**
J. Construction Contract Work	$0		

2. **Current Date of Right of Way Certification** April 1, 2016

3. **Parcel Data:**

Type		Dual/Appr
X	0	
A	6	
B	10	
C	0	0
D	0	0
Total	16	

Utilities	
U4 - 1	1
- 2	0
- 3	0
- 4	0
U5 - 7	2
- 8	0
- 9	1

RR Involvements	
None	X
C&M Agrmt	
Svc Contract	
Easements	
Rights of Entry	
Clauses	

Areas:

R/W: 3039.95 Ac.
Excess: N/A
Mitigation: N/A

No. Excess Pcls: 0

Misc. R/W Work	
RAP Displ	N/A
Clear/Demo	N/A
Const Permits	N/A
Condemnation	0
USA Involvement	No

4. Are there any major items of construction contract work?
Yes _____ No X

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).

The zoning of the parcels on this route include a combination of C, RR, RL, RV, RMR, & FV. Land uses include a restaurant, store, SFR's, RV Park, and vacant land.

6. Are any properties acquired for this project expected to be rented, leased, or sold?
Yes _____ No X

7. Is there an effect on assessed valuation? Yes _____ Not Significant _____
No X

8. Are utility facilities or rights of way affected? Yes X No _____

9 Poles

9. Are railroad facilities or rights of way affected? Yes _____ No X

10. Were any previously unidentified sites with hazardous waste and/or material found?
Yes _____ None Evident X

11. Are RAP displacements required? Yes _____ No X

No. of single family _____ No. of business/nonprofit _____
No. of multi-family _____ No. of farms _____

Based on Draft/Final Relocation Impact Statement/Study dated N/A
it is anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing.

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

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

13. Are there potential relinquishments and/or abandonments?
Yes _____ No X

14. Are there any existing and/or potential airspace sites?
Yes _____ No **X**

15. What type of mitigation is required for the project?

Biological
Archaeological
Historical
Wetland/ Riparian

16. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if district proposes less than PMCS lead time and/or if significant pressures for project advancement are anticipated.)

Right of Way Lead Time will require a minimum of 17 months after we receive first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of way for certification.

17. Is it anticipated that Caltrans will perform all Right of Way work?
Yes **X** No _____

Evaluation Prepared By:

Right of Way: Brett Benson Date 7-14-09
Brett Benson

Reviewed By:

RW Project Coordinator: Audrey E. Oakley Date 7/15/09
Audrey Oakley

I have personally reviewed this Right of Way Data Sheet and all supporting information. I certify that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper, subject to the limiting conditions set forth, and I find this Data Sheet to be complete and current.

RECOMMENDED FOR APPROVAL

Mark C. Ricards
MARK C. RICARDS,
Senior Right of Way Agent
Project Delivery Branch
Eureka

7-14-09
Date

APPROVED:

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

7/29/09
Date

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
UTILITY INFORMATION SHEET

E.A. 40110K
01-MEN-1 PM 43.3/44.2

Alt No. 1

1. **Name of Utility Companies Requiring Verification Only:**

   PG&E
   AT&T
   Comcast

2. **Name of Utility Companies Requiring Relocations:**

   AT&T

   Number of JUA's or CCUA's required for this project:

3. **Additional information concerning utility involvements on this project:**

   9 Poles

4. **PMCS Input Information**
   Total estimated cost of State's obligation for utility relocation on this project:

   Potholing: $ 0

   Relocation $ 0

   Total: $ 0 **Escalation Rate** 5 **%.**

   (Owner's Share: $ 135,000)

Utility Involvements

U4-1	1	**U5-7**	2
-2		**-8**	
-3		**-9**	
-4			

Prepared By:

LK Lovelace

Leota Lovelace
Right of Way Utility Estimator

14 Jul 09
Date

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

MITIGATION INFORMATION SHEET

E.A. 40110K

01-MEN-1 PM 43.3/44.2

1. **Is mitigation required for the project?**
   Yes per Environmental Coordinator, Karen Thomas @ (916) 274-0568.

2. **What type of mitigation is needed for the project?**
   Biological
   Archaeological
   Historical
   Wetland/ Riparian

3. **List any Resource Agency that will be involved with mitigation.**

   California Department of Fish & Game
   North Coast Regional Water Quality Control Board
   US Army Corps of Engineers
   US Fish & Wildlife Service
   National Marine Fisheries
   State Historic Preservation Office
   US Coast Guard
   CA Coastal/ local Coastal Commission

4. **What is the method of Mitigation?**

   Number of fee acquisition parcels, Conservation Easements, and/or Option agmts required: _____

   Mitigation Bank: (yes/no) _____

   In-lieu payment: (yes/no) _____

   Other: (describe) _____

   _____

5. **PMCS Input Information**

   Number of Acres/Credits _____

   Estimated Cost $1,740,000

   Prepared By:

   Brett Benson

   Right of Way Mitigation Estimator

State of California
Department of Transportation

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: Ilene Poindexter
Advance Planning Branch Chief
Department of Transportation, District 3

Attention Jeffrey Pimentel
Project Engineer

Date: July 7, 2009

File: 01-MEN-1 PM 43.3/44.2
E.A. 40110K
Alternate No. 2 - Replace structure east of existing alignment
Albion River Bridge Replacement

From: WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on information received from you on April 15, 2009 , and the following assumptions and limiting conditions.

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

County encroachment permits will be required and are to be obtained through Design.

Right of Way Lead Time will require a minimum of 17 months after we receive project first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of Way for certification. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Attachments:
Right of Way Data Sheet

cc. Grace Tell

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DATA SHEET

Date: July 7, 2009

01-MEN-1 PM 43.3/44.2
E.A. 40110K
Albion River Bridge Replacement

1. **Right of Way Cost Estimate:** **Alternate No. 2 - Replace structure east of existing alignment**

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	$2,558,579	5%	$3,554,748
B. Mitigation acquisition & credits	$1,740,000	5%	$2,417,460
C. Project Development Permit Fees	$9,000	5%	$12,504
Subtotal	$4,307,579		$5,984,713
D. Utility Relocation (State Share) (Owner's share: $180,000)	$0		$0
E. Relocation Assistance (RAP)	$2,500	5%	$3,473
F. Clearance/Demolition	$20,000	5%	$27,787
H. Title & Escrow	$10,700	5%	$14,866
I. Total Estimated Right of Way Cost	$4,340,779	Rounded	**$6,031,000**
J. Construction Contract Work	$0		

2. **Current Date of Right of Way Certification** April 1, 2016

3. **Parcel Data:**

Type		Dual/Appr
X	0	
A	8	
B	8	
C	0	0
D	0	0
Total	16	

Utilities	
U4 - 1	1
- 2	0
- 3	0
- 4	0
U5 - 7	2
- 8	0
- 9	1

RR Involvements	
None	X
C&M Agrmt	
Svc Contract	
Easements	
Rights of Entry	
Clauses	

Areas:

R/W: 14.989 Ac.
Excess: N/A
Mitigation: N/A

No. Excess Pcls: 0

Misc. R/W Work	
RAP Displ	N/A
Clear/Demo	N/A
Const Permits	N/A
Condemnation	0
USA Involvement	No

4. Are there any major items of construction contract work?
Yes _____ No X

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).

The zoning of the parcels on this route include a combination of C, RR, RL, RV, RMR, & FV. Land uses include a restaurant, store, SFR's, RV Park, and vacant land.

6. Are any properties acquired for this project expected to be rented, leased, or sold?
Yes _____ No X

7. Is there an effect on assessed valuation? Yes _____ Not Significant _____
No X

8. Are utility facilities or rights of way affected? Yes X No _____

12 Poles.

9. Are railroad facilities or rights of way affected? Yes _____ No X

10. Were any previously unidentified sites with hazardous waste and/or material found?
Yes _____ None Evident X

11. Are RAP displacements required? Yes _____ No X

No. of single family		No. of business/nonprofit	
No. of multi-family		No. of farms	

Based on Draft/Final Relocation Impact Statement/Study dated N/A
it is anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing.

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

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

13. Are there potential relinquishments and/or abandonments?
Yes _____ No X

14. Are there any existing and/or potential airspace sites?
Yes _____ No **X**

15. What type of mitigation is required for the project?

Biological
Archaeological
Historical
Wetland/ Riparian

16. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if district proposes less than PMCS lead time and/or if significant pressures for project advancement are anticipated.)

Right of Way Lead Time will require a minimum of 17 months after we receive first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of way for certification.

17. Is it anticipated that Caltrans will perform all Right of Way work?
Yes **X** No _____

Evaluation Prepared By:

Right of Way: Brett Benson Date 7-14-09
Brett Benson

Reviewed By:

RW Project Coordinator: Audrey E. Oakley Date 7/15/09
Audrey Oakley

I have personally reviewed this Right of Way Data Sheet and all supporting information. I certify that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper, subject to the limiting conditions set forth, and I find this Data Sheet to be complete and current.

RECOMMENDED FOR APPROVAL

Mark C. Ricards
Mark C. Ricards,
Senior Right of Way Agent
Project Delivery Branch
Eureka

7-14-09
Date

APPROVED:

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

7/29/09
Date

1. **Name of Utility Companies Requiring Verification Only:**

   PG&E
   AT&T
   Comcast

2. **Name of Utility Companies Requiring Relocations:**

   AT&T

   Number of JUA's or CCUA's required for this project:

3. **Additional information concerning utility involvements on this project:**

   12 Poles.

4. **PMCS Input Information**
   Total estimated cost of State's obligation for utility relocation on this project:

   Potholing: $ 0

   Relocation $ 0

   Total: $ 0 **Escalation Rate** 5 **%.**

   (Owner's Share: $ 180,000)

Utility Involvements

U4-1	1	**U5-7**	2
-2		**-8**	
-3		**-9**	1
-4			

Prepared By:

LK Lovelace

Leota Lovelace
Right of Way Utility Estimator

14 Jul 09
Date

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

MITIGATION INFORMATION SHEET

E.A. 40110K

01-MEN-1 PM 43.3/44.2

1. **Is mitigation required for the project?**
   Yes per Environmental Coordinator, Karen Thomas @ (916) 274-0568.

2. **What type of mitigation is needed for the project?**
   Biological
   Archaeological
   Historical
   Wetland/ Riparian

3. **List any Resource Agency that will be involved with mitigation.**

   California Department of Fish & Game
   North Coast Regional Water Quality Control Board
   US Army Corps of Engineers
   US Fish & Wildlife Service
   National Marine Fisheries
   State Historic Preservation Office
   US Coast Guard
   CA Coastal/ local Coastal Commission

4. **What is the method of Mitigation?**

   Number of fee acquisition parcels, Conservation Easements, and/or Option agmts required: _____

   Mitigation Bank: (yes/no) _____

   In-lieu payment: (yes/no) _____

   Other: (describe) _____

5. **PMCS Input Information**

   Number of Acres/Credits _____

   Estimated Cost $1,740,000

   Prepared By:

Brett Benson

Right of Way Mitigation Estimator

State of California
Department of Transportation

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: Ilene Poindexter
Advance Planning Branch Chief
Department of Transportation, District 3

Attention Jeffrey Pimentel
Project Engineer

Date: July 7, 2009

File: 01-MEN-1 PM 43.3/44.2
E.A. 40110K
Alternate No. 3 - Replace structure west of existing alignment in stages
Albion River Bridge Replacement

From: WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on information received from you on April 15, 2009 , and the following assumptions and limiting conditions.

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

County encroachment permits will be required and are to be obtained through Design.

Right of Way Lead Time will require a minimum of 17 months after we receive project first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of Way for certification. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

Attachments:
Right of Way Data Sheet

cc. Grace Tell

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY DATA SHEET

Date: July 7, 2009

01-MEN-1 PM 43.3/44.2
E.A. 40110K
Albion River Bridge Replacement

1. **Right of Way Cost Estimate:** **Alternate No. 3 - Replace structure west of existing alignment in stages**

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	$1,118,613	5%	$1,554,139
B. Mitigation acquisition & credits	$1,740,000	5%	$2,417,460
C. Project Development Permit Fees	$9,000	5%	$12,504
Subtotal	$2,867,613		$3,984,103
D. Utility Relocation (State Share) (Owner's share: $180,000)	$0		$0
E. Relocation Assistance (RAP)	$0		$0
F. Clearance/Demolition	$0		$0
H. Title & Escrow	$10,550	5%	$14,658
I. Total Estimated Right of Way Cost	$2,878,163	Rounded	**$3,999,000**
J. Construction Contract Work	$0		

2. **Current Date of Right of Way Certification** April 1, 2016

3. **Parcel Data:**

Type		Dual/Appr
X	0	
A	7	
B	8	
C	0	0
D	0	0
Total	15	

Utilities	
U4 - 1	1
- 2	0
- 3	0
- 4	0
U5 - 7	2
- 8	0
- 9	1

RR Involvements	
None	X
C&M Agrmt	
Svc Contract	
Easements	
Rights of Entry	
Clauses	

Areas:

R/W:	11.464 Ac.		
Excess:	N/A	No. Excess Pcls:	0
Mitigation:	N/A		

Misc. R/W Work	
RAP Displ	N/A
Clear/Demo	N/A
Const Permits	N/A
Condemnation	0
USA Involvement	No

4. Are there any major items of construction contract work?
Yes _____ No X

5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.).

The zoning of the parcels on this route include a combination of C, RR, RL, RV, RMR, & FV. Land uses include a restaurant, store, SFR's, RV Park, and vacant land.

6. Are any properties acquired for this project expected to be rented, leased, or sold?
Yes _____ No X

7. Is there an effect on assessed valuation? Yes _____ Not Significant _____
No X

8. Are utility facilities or rights of way affected? Yes X No _____

12 Poles

9. Are railroad facilities or rights of way affected? Yes _____ No X

10. Were any previously unidentified sites with hazardous waste and/or material found?
Yes _____ None Evident X

11. Are RAP displacements required? Yes _____ No X

No. of single family _____ No. of business/nonprofit _____
No. of multi-family _____ No. of farms _____

Based on Draft/Final Relocation Impact Statement/Study dated N/A
it is anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing.

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

The Greenwood Disposal Site is located nearby and will be available for an optional disposal site at $.75/ cubic yard, which is to be paid through Construction.

13. Are there potential relinquishments and/or abandonments?
Yes _____ No X

14. Are there any existing and/or potential airspace sites?
Yes _____ No **X**

15. What type of mitigation is required for the project?

Biological
Archaeological
Historical
Wetland/ Riparian

16. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if district proposes less than PMCS lead time and/or if significant pressures for project advancement are anticipated.)

Right of Way Lead Time will require a minimum of 17 months after we receive first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 14 months will be required after receiving the last appraisal map to Right of way for certification.

17. Is it anticipated that Caltrans will perform all Right of Way work?
Yes **X** No _____

Evaluation Prepared By:

Right of Way: Brett Benson Date 7-14-09
Brett Benson

Reviewed By:

RW Project Coordinator: Audrey E. Oakley Date 7/15/09
Audrey Oakley

I have personally reviewed this Right of Way Data Sheet and all supporting information. I certify that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper, subject to the limiting conditions set forth, and I find this Data Sheet to be complete and current.

RECOMMENDED FOR APPROVAL

Mark C. Ricards
Mark C. Ricards,
Senior Right of Way Agent
Project Delivery Branch
Eureka

7-14-09
Date

APPROVED:

WALTER E. BIRD,
North Region Right of Way Manager
Eureka/Redding

7/29/09
Date

1. **Name of Utility Companies Requiring Verification Only:**

   PG&E
   AT&T
   Comcast

2. **Name of Utility Companies Requiring Relocations:**

   AT&T

   Number of JUA's or CCUA's required for this project:

3. **Additional information concerning utility involvements on this project:**

   12 Poles

4. **PMCS Input Information**
   Total estimated cost of State's obligation for utility relocation on this project:

   Potholing: $ 0

   Relocation $ 0

   Total: $ 0 **Escalation Rate** 5 **%.**

   (Owner's Share: $ 180,000)

Utility Involvements

U4-1	1	**U5-7**	2
-2		**-8**	
-3		**-9**	1
-4			

Prepared By:

LK Lovelace

Leota Lovelace
Right of Way Utility Estimator

14 Jul 09

Date

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

MITIGATION INFORMATION SHEET

E.A. 40110K

01-MEN-1 PM 43.3/44.2

1. **Is mitigation required for the project?**
   Yes per Environmental Coordinator, Karen Thomas @ (916) 274-0568.

2. **What type of mitigation is needed for the project?**
   Biological
   Archaeological
   Historical
   Wetland/ Riparian

3. **List any Resource Agency that will be involved with mitigation.**

   California Department of Fish & Game
   North Coast Regional Water Quality Control Board
   US Army Corps of Engineers
   US Fish & Wildlife Service
   National Marine Fisheries
   State Historic Preservation Office
   US Coast Guard
   CA Coastal/ local Coastal Commission

4. **What is the method of Mitigation?**

   Number of fee acquisition parcels, Conservation Easements, and/or Option agmts required: _____

   Mitigation Bank: (yes/no) _____

   In-lieu payment: (yes/no) _____

   Other: (describe) _____

5. **PMCS Input Information**

   Number of Acres/Credits _____

   Estimated Cost $1,740,000

   Prepared By:

Brett Benson

Right of Way Mitigation Estimator

ATTACHMENT L

TRANSPORTATION MANAGEMENT PLAN
(TMP)

State of California Business, Transportation and Housing Agency

TRANSPORTATION MANAGEMENT PLAN
(Update)

To: Jonathan Jackson
Project Engineer

Date: 01 April 2009
File: Men-1 PM 43.3/44.1
EA: 01-40110K
Albion River Bridge
Replacement.

From: Troy Arseneau, Chief
District 1 Office of Traffic Operations

Project Information

Location:	In Mendocino County near Albion at Albion River Bridge # 10-136.	
Type of Work:	Replace Bridge.	
Anticipated Traffic Control:	One-way reversible traffic control. Shoulder closure.	
Estimated Maximum Delay:	5 Minutes.	
Peak Hour Traffic Volumes:	430 vph.	
Lane Requirement Charts Included:	Yes.	
Number of Working Days:	Undetermined.	
Next Major Milestone and Date:	PSR – March / 2009	
RTL Date:	January / 2014	
District Traffic Manager/ TMP Manager:	Troy Arseneau	(707) 445-6377
TMP Coordinator:	Paul Hailey	(707) 445-5213

Anticipated Traffic Impacts

Significant traffic impacts are not anticipated provided that the following recommendations are incorporated into the project. In conformance with Deputy Directive-60, District Lane Closure Review Committee approval is not required for projects with anticipated traffic delay less than 30 minutes.

Recommendation

A request for an updated Transportation Management Plan shall be made during the design phase.

Hours of Work

- Except during the use of temporary barrier rail, the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, designated legal holidays and the day preceding designated legal holidays, after 3:00 p.m. on Fridays, and when construction operations are not actively in progress. If a legal holiday falls on a Monday the full width of the traveled way shall be open on the preceding Friday.

Public Notice

- Upon receipt of notice that the roadway width (including paved shoulder) for a direction of travel will be narrowed to less than 16 ft, the Resident Engineer shall promptly notify the District Permits Engineer.
- The District Public Information Office, (707) 445-6444, shall be contacted two weeks in advance of the start of construction.
- Any emergency service agency whose ability to respond to incidents will be affected by any lane closure must be notified prior to that closure.
- Work shall be coordinated with the local busing system (including school buses and public systems) to minimize impact on their bus schedules.
- The Resident Engineer shall provide information to residents and businesses before and during project work that may represent a negative impact on commerce and travel surrounding the zone of construction. Funding shall be included in supplemental funds for public information.
- Supplemental funds for an open house public meeting prior to the construction phase shall be incorporated into the cost estimate for this project.
- Include in a memo to the Resident Engineer that at least 5 days in advance of excavation work in the vicinity of possible Caltrans facilities, that Maintenance-Electrical Supervisor (825-0233) shall be contacted to locate existing Caltrans underground electrical facilities.

Traffic Control

- One closure is permitted within the project limits.
- One-way traffic control shall be in conformance with the Caltrans Standard Plan T-13, "TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS."

- A minimum of 14 ft of paved roadway shall be open for use by public traffic, where available.
- In the event the design calls for the roadway to be reduced to less than 14 feet of paved width, a memo requesting an updated TMP with the reasoning for the change of the lane width restriction shall be submitted to District 1 Traffic Operations.
- The maximum length of one-way traffic control closure is 2500 ft.
- During one-way traffic control, additional advance flaggers will be required. All flaggers shall have continuous radio contact with personnel in the work area.
- "Watch for Bicycles" signs shall be placed, in each direction of travel, prior to the construction zone.

- A shoulder closure consisting of at least one Shoulder Work Ahead advance warning sign and channelizing devices shall be used when work occurs within 6 ft of the edge of traveled way. Channelizing devices shall be placed 200 ft in advance of, and adjacent to the work zone with a maximum distance of 50 ft between channelizers.
- A minimum of one PCMS in advance of both ends of the construction site shall be required in order to notify the public of the closures related to this project.
- Access to side roads and residences shall be maintained at all times. When work or traffic queues extend through an intersection, additional traffic control will be required at the intersection.
- If traffic is to be placed on unpaved surfaces over night, advanced flashing beacons on the advance signing as shown in Standard Plan T-13 shall be required. Flashing beacons on all four advance signs shall be required where possible. When placing flashing beacons, care shall be taken to avoid impacting inhabited dwellings with the light.
- Gawk screens are recommended to accompany any temporary rail barrier (Type K) in order to maximize the capacity of the traveled way.
- This section of Highway 1 is part of the Pacific Coast Bike Route. Bicycles shall be accommodated through the work zone by providing a 4 ft traversable paved shoulder.
- If persons with disabilities (e.g. hearing, visual, or mobility) are found to use this facility, the temporary traffic control measures mentioned in the California

MUTCD Chapter 6D shall be incorporated to accommodate disabled pedestrians through the work zone.

Contingency Plan

The contractor shall prepare a contingency plan for reopening closures to public traffic. The Contractor shall submit the contingency plan for a given operation to the Engineer within one working day of the Engineer's request. Contingencies for unanticipated delays, emergencies, etc. shall be coordinated between the RE and the Contractor.

Approval

Approved by: _____
Transportation Management Plan Coordinator

Approved by: _____
District Traffic/ TMP Manager

TAA/sdl

CC: 1)TAArseneau, 2)JCandalot
1)RMMartinelli, 2) JJZimmerer, 3)MGDavenport
Ipoindexter
GKTell
HLQuintrell
RLingford
AJones

Chart No. 1
Lane Requirements

County: Mendocino	Route: 1	PM: 43.7/43.8

FROM HOUR TO HOUR	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fridays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
Saturdays																									
Sundays																									
Day before designated legal holiday																									
Designated legal holidays																									

Legend:

1	A minimum of 14 ft of paved roadway shall be open for use by public traffic. The maximum lane closure length is 2500 ft.

- The full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress.
- If a legal holiday falls on a Monday, the full width of the traveled way shall be open on the preceding Friday.
- No work shall take place on the day preceding a 3-day weekend.

ATTACHMENT M

PRELIMINARY ENVIRONMENTAL
ASSESSMENT REPORT (PEAR)

Preliminary Environmental Analysis Report (PEAR)

Albion River Bridge (#10-0136) Replacement Project

01-MEN-1 PM 43.3-44.1

01-40110K

April 2009

Prepared By: Karen Thomas, Associate Environmental Planner, Coordinator
Office of Environmental Management, S4
916-274-0568

For individuals with sensory disabilities, this document can be made in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Lupe Jimenez, Office of Environmental Management S4, 2389 Gateway Oaks Dr., Sacramento, CA 95833; 916-274-0557 (Voice) or use the California Relay Service TTY number, 530-741-4509.

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

Caltrans

PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

1. Project Information

District	County	Route	PM	EA
1	Men	1	43.3/44.16	01-40110k
Project Title: *Brief descriptive phrase, e.g., CAPM, Curve Re-alignment, Passing Lane, etc.* Albion River Bridge Replacement				
Project Manager Grace Tell			Phone # (916) 274-0656	
Project Engineer Jeffrey Pimentel			Phone # (707) 445-6358	
Environmental Office Chief/Manager Lupe Jimenez			Phone # (916) 274-0557	
PEAR Preparer Karen Thomas			Phone # (916) 274-0568	

2. Project Description

Purpose and Need

The purpose of this project is to replace this functionally obsolete and structurally deficient bridge with a structure that will improve geometrics and structural integrity to ensure uninterrupted traffic movements in the event of a vehicular breakdown, seismic event, or other catastrophic failure. There is no interim retrofit work that can reduce the geometric and structural deficiencies of the existing structure

Description of work

Caltrans proposes to replace the existing bridge with realignment of the approaching highway. There are three alternatives under consideration for this project. Alt 1 locates the proposed bridge alignment to the west of the Albion River Bridge and Alt 2 locates proposed bridge alignment to the east of the existing structure. Alt 3 is a staged construction west of the existing bridge. The proposed roadway cross-section includes two 12-foot lanes and 4-foot shoulders as specified by the Route Concept Report for this segment of highway. The proposed structure cross-section is two 12-foot lanes, 8-foot shoulders, and two 5-foot pedestrian walkways on the west and east sides of the bridge separated from traffic with a barrier.

Alternatives

The following alternatives are being evaluated to replace the Albion River Bridge. All alignments consist of two 12-foot travel lanes, two 8-foot shoulders, and 5-foot pedestrian walkways with barrier on the east and west sides of the structure.

2. Project Description (continued)

Alternative 1
This alignment is located west of the existing Albion River Bridge. It is 1,020 feet long and 139 feet to 151 feet high. This alternative will likely allow two traffic lanes to remain open during most of the construction. The proposed southern 2000-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of State Route (SR) 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway, thus, modifications will be required as a result of realigning SR 1.

Alternative 2
This alignment is located east of the existing Albion River Bridge. It is 1,040 feet long and 140 feet to 153 feet high. This alternative will likely allow two traffic lanes to remain open during most of the construction. The proposed southern 1900-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of SR 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway. Albion River North Side Road will be connected to Albion Little River Road. Albion Little River Road will intersect the proposed SR 1 realignment.

Alternative 3
This alignment is located west of the existing Albion River Bridge. The proposed replacement structure will be constructed in stages. It is 940 to 943 feet long and 140 feet to 151 feet high. This alternative will likely require one-way reversible traffic during the second phase of staged construction. The proposed centerline is 15 ¼ feet offset left (west) at the south end of the structure and parallels the existing alignment before deviating to the west. The proposed southern 1950-foot radius curve has two 12-foot left turn pockets with a storage length of 435 feet. Spring Grove Road and Albion Ridge Road (served by the turn pockets) will be minimally affected by the realignment of SR 1. To the north of the structure, Albion Little River Road and Albion River North Side Road will be affected by the realignment of the roadway, thus, modifications will be required as a result of realigning SR 1.

3. Anticipated Environmental Approval

Check the anticipated environmental determination or document for the proposed project in the table below.

CEQA		NEPA	
Environmental Determination			
Statutory Exemption	☐		
Categorical Exemption	☐	Categorical Exclusion	☐
Environmental Document			
Initial Study or Focused Initial Study with Negative Declaration or		Environmental Assessment with Finding of No Significant Impact	

Mitigated ND	☒		☒
Environmental Impact Report	☐	Environmental Impact Statement	☐
CEQA Lead Agency (if determined):		Caltrans	
Estimated length of time (months) to obtain environmental approval:		40	
Estimated person hours to complete identified tasks:		14000	

4. Special Environmental Considerations

All of the alternatives require the same seasonal constraints. The biological surveys will require surveys during the appropriate blooming period which is May through July for the Howell's spineflower.
All of the alternatives possibly require Section 7 and NMFS consultation.
All of the alternatives will require Section 106 consultation.
All of the alternatives will require Section 4(f) evaluation and coordination.
All of the alternatives will require a State and local Coastal permit.

5. Anticipated Environmental Commitments

All of the alternatives would have similar environmental commitments.
Wetland impacts would require approximately $140,000 in mitigation costs which are comprised of compensating for wetlands that are impacted by the project.
Migratory Bird impacts would require approximately $200,000 in mitigation costs that comprise of exclusionary methods to prevent the birds from nesting on the bridge.
Best management practices will be required to maintain water quality and a Storm water Pollution Prevention Plan will be required by the Contractor.

6. Permits and Approvals

Include timelines for acquiring permits or agreements. Reference PEAR Environmental Commitments Cost Estimate.

- Dept. of Fish and Game 1602 Streambed Alteration Agreement One year
- Regional Water Quality Control Board 401 certification One year
- US Army Corps of Engineers 404 Permit One to two years
- US Fish and Wildlife Service One year
- National Marine Fisheries Service One year
- State Historic Preservation Office MOA Up to two years
- Coast Guard Permit unknown
- CA Coastal / local Coastal Permit up to two years

7. Level of Effort: Risks and Assumptions

Due to the constrained budget allowed for preparation of the PEAR, limited field reviews were performed.

The Bridge is eligible for the National Register of Historic Places, thus will require coordination with the SHPO, which could be lengthy.
There is the likely possibility of impacting several threatened or endangered species. Consultation with the US Fish and Wildlife Service could take a year or more.
Consultation with the California Coastal Commission and local planning agencies could take a year or more.

8. PEAR Technical Summaries

8.1 **Land Use**: At this time it appears that there is the potential for impacts to the local economy as a result of this project. If, upon design clarification, there are impacts to local businesses, including land acquisition, access restrictions, or temporary construction impacts, these issues will need to be considered in depth in the Community Impact Assessment.

8.2 **Growth**: Without more quantifiable data at this time on any potential direct impacts it is difficult to identify any indirect impacts with accuracy. Further research and study on indirect impacts, including any potential growth-inducing impacts is required.

8.3 **Farmlands/Timberlands**: No farmland or timberland will be affected.

8.4 **Community Impacts**: The Albion River Campground lies directly below and to the east of the existing structure with beach access to the west. There obviously will be impacts to this facility regardless of which alternative is selected. Additionally there are numerous small commercial businesses and residences located on both the northern and southern spans of the structure If displacements are necessary from this project, a Relocation Impact Study prepared by Right of Way staff would be required.

An initial review of census data for the proposed project area reveals no immediate concern that low-income or racial minority populations would be disproportionately impacted. Demographic studies will need to be refined in the project CIA in order to accurately assess potential impacts. Under the current project description it is not anticipated that there will be any significant social impacts to neighborhood or community cohesion, however there are potential impacts to community facilities and recreational areas.

8.5 **Visual/Aesthetics**: A visual impacts assessment will be required and should include potential project effects and any appropriate mitigation. Elements of the bridge structure along with its architectural style as well as adjacent cut and fill slopes should be designed to blend in and complement the scenic nature of the coast. Vegetation removal should be minimized to reduce the effect on the environmental and visual setting. Revegetation will be required to minimize long-term visual impacts to the roadside viewshed. The visual quality along the existing alignment is highly scenic and the final project design should minimize the effect on the visual

setting. This section of Route 1 has been found 'Eligible' for scenic highway designation on the California Scenic Highway System.

8.6 **Cultural Resources**: The area is of high sensitivity for prehistoric and historic resources. An Historic Resource Evaluation Report (HRER) will need to be prepared. The replacement of the Albion Bridge, eligible for the National Register of Historic Places (NRHP), would be an adverse effect, thus a Finding of Effects (FOE) document is required to comply with both State and Federal laws. The determination of eligibility of identified resources, other than the bridge, which has already been determined eligible, and the effects analyses would take approximately 12 to 18 months to complete. Having an adverse effect on any identified cultural resources, both historic and prehistoric, would require entering into a Memorandum of Agreement (MOA) between the State Historic Preservation Office (SHPO) and FHWA. It will also require evaluation under Section 4(f) of the National Transportation Act in the Environmental Document. The possible need for an MOA and 4(f) evaluation may add 12 to 18 months to the overall project schedule. There is no time frame for writing an MOA. The MOA will detail mitigation efforts, such as a Phase III data recovery excavation in the case of an archaeological site or detailed recordation efforts in the case of the historic built environment.

Section 4(f) Impacts: If there are temporary or permanent impacts to properties eligible for or listed on the National Register of Historic Places a Section 4(f) evaluation will be necessary.

8.7 **Hydrology and Floodplain**: The Flood Insurance Rate Map (FIRM) indicates the project is located in Zone A Zone A is defined as "Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage." However the bridge that is to be replaced is much greater in elevation than the riverbed below. Both ends of the bridge are located in Zone C, which is defined as "moderate to low flooding and are in "areas outside the 1-percent annual chance floodplain".

8.8 **Water Quality and Storm Water Runoff**: The Albion River is listed as impaired for sediment. The North Coast Regional Water Quality Control Board has jurisdiction in the project area. Given that the project will increase the impervious surface in the project area, treatment best management practices (BMPs) will be required to address pollutant loading and hydromodification. This office recommends that scuppers be eliminated from the bridge if at all possible, if not, the scuppers should drain to land rather than the active channel. Off set treatment could be required if treatment BMPs are not feasible on site. The need for additional Right of Way should be evaluated early during project development so that there is adequate space for incorporation of treatment BMPs. If Caltrans is unable to commit to placement of treatment BMPs during the PA/ED phase, the additional sources of polluted runoff should be identified as an impact that would require mitigation to a less than significant level. A water quality study should be prepared.

8.9 **Geology, Soils, Seismic and Topography**: Geology, soils, seismic and topography will be covered in the environmental document.

8.10 **Paleontology**: There is no potential for paleontological impacts.

8.11 **Hazardous Waste/Materials**: The project includes demolition and construction, drainage system modification and earthwork. Soil and vegetation will be disturbed during construction. Excess material may need to be disposed of offsite. A preliminary site investigation including a structural survey of the existing bridge is required.

8.12 **Air Quality**: This project is exempt from all air quality conformity analysis requirements per Table 2 of 40 Code of Federal Regulations (CFR) §93.126, subsection Safety (Widening narrow pavements or reconstructing bridges [no additional travel lanes]."). Construction Impacts: Caltrans Standard Specifications which includes Section 7-1.01F, "Air Pollution Control" and Section 10, "Dust Control" that require the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district in order to minimize any potential temporary construction-related emission impacts

8.13 **Noise and Vibration**: The project is anticipated to meet the definition of a Type I project, requiring the need for a technical noise studies report

8.14 **Energy and Climate Change**: The project is unlikely to affect climate change, as it does not provide for increased capacity on SR 1.

8.15 **Biological Environment**: WESTERN SNOWY PLOVER is a Federally Threatened bird species with potential habitat within the ESL. There are no records of this species in the vicinity of the ESL, however, if onsite habitat is suitable then consultation with USFWS is recommended to determine if the project has the potential to affect this species.

HOWELLS SPINEFLOWER is Federally Endangered and State Threatenend. Habitat is present within the ESL. Blooming season surveys should be conducted and consultation with USFWS and CDFG should be initiated if this plant may be affected by the proposed project.

The Central California Coast Coho SALMON population is Federally Endangered and the Central California Coastal STEELHEAD, Northern California Steelhead, and California Coastal Chinook Salmon are Federally Threatened. The Albion River contains suitable salmonid habitat and is included in the environmentally sensitive units (ESU) designated by the National Marine Fisheries (NMFS) for these species. Neither the existing bridge nor any of the proposed alternatives pose a fish passage barrier. ESA consultation with NMFS should be initiated for potential impacts to these species. Fish may be affected by falsework needed during

construction and noise from pile driving; these activities should be minimized and avoided during the run seasons if possible.

BEHRENS SILVERSPOT BUTTERFLY is Federally Endangered. Habitat within ESL should be assessed for presense of catipillar host plants and adult nectar sources. If the proposed project may affect this species, consultation with USFWS should be initiated.

SPECIAL STATUS SPECIES: The following species were identified during records searches of CDFG, CNDDB, and CNPS databases and have the potential to occur within the ESL: Blasdale's bent grass, coastal bluff morning glory, California sedge, deceiving sedge, Mendocino coast paint brush, supple daisy, Pacific gilia, Baker's goldfields, perennial goldfields, coast lily, seacoast ragwort, purple martin, great burnet, maple leaved checkerbloom, and Siskiyou checkerbloom. A qualified biologist should survey the ESL during PA&ED to determine presence and whether or not the project will have impacts on these species. Plant surveys should be conducted during species specific blooming periods.

MIGRATORY BIRD SPECIES are protected by the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). There is a potential for raptors and other nesting birds to inhabit trees within the ESL and/or the Albion Bridge. A qualified biologist should conduct nesting surveys for migratory birds during PA&ED as well as pre-construction nesting surveys to determine if the project will have potential impacts on these species.

WATERS OF THE US: The existing and proposed bridge structures cross the Albion River. This river subject to the ebb and flow of the tide and is, therefore, a traditional navigable water under Section 404 of the Clean Water Act. Work done in the navigable portion of the river will fall under the jurisdiction of Section 10 of the Rivers and Harbors Act. There are also areas of potential wetlands along Route 1 within the envrironmental study limits.

8.16 **Cumulative Impacts**: Cumulative impacts will be addressed under each specific subject.

8.17 **Context Sensitive Solutions**: Context Sensitive Solutions will be addressed in the Visual Impact Analysis.

9. Summary Statement for PSR or PSR-PDS

Cultural Resources:

The area has a high sensitivity for archaeological resources. If it is determined that buried cultural resources are likely; a phase II evaluation is required, which would take between 18 months to three years. A Phase III data recovery will be required before construction.

All of the alternatives will impact the historic bridge. A "finding of effects" document will be submitted to the State Historic Preservation Office (SHPO) This will require consultation with the SHPO, which could take from one to two years. The possible need for a Memorandum of Agreement could add from 12 to 18 months.

Section 4(f)
Since the bridge is historic, it is a 4(f) resource. A 4(f) evaluation and coordination with the SHPO is required, which could take from 12 to 18 months.

Natural Resources:
Field survey schedules to identify special status plants should be determined based on the known blooming periods of these species. Surveys to determine the presence of nesting birds and bats should be conducted during the nesting season (February 15 through August 31). Section 7 consultation is required for federally Threatened and Endangered species, consultation could take up to one year or more to complete.

The delineation of wetlands and other waters should be conducted in the spring. Additionally, impacts to the jurisdictional wetlands or waters of the U.S. existing within the project area will need to be quantified and a Wetland Delineation Report will need to be prepared. Permits from the U.S. Army Corps of Engineers and the Regional Water Quality Control Board will be required for any impacts to jurisdictional areas. It is anticipated that these permits will take 9-16 months to obtain.

The delineation of coastal wetlands should be conducted in the spring concurrently with the delineation of wetlands and waters of the U.S. These impacts will need to be quantified and addressed in the California Coastal Development Permit. Additional mitigation may be required under the California Coastal Act.

Visual Impacts:
The visual quality along the existing alignment is highly scenic and the final project design should minimize the effect on the visual setting. This section of Route 1 has been found 'Eligible' for scenic highway designation on the California Scenic Highway System.

Permits to Enter: Permission to enter properties will be necessary.

10. Disclaimer

This Preliminary Environmental Analysis Report (PEAR) provides information to support programming of the proposed project. It is not an environmental determination or document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in the Project Study Report (PSR). The estimates and conclusions in the PEAR are approximate and are based on cursory analyses of probable effects. A reevaluation of the PEAR will be needed for changes in project scope or alternatives, or in environmental laws, regulations, or guidelines.

11. List of Preparers

Cultural Resources specialist Erick Wulf	Date: 2/5/09
Biologist Rebecca Loeffler	Date: 3/25/09
Community Impacts specialist Alicia Boomer	Date: 2/5/09
Noise and Vibration specialist Ben Tam	Date: 3/10/09
Air Quality specialist Sharon Tang	Date: 2/11/09
Water Quality specialist Alex Aravelo	Date: 3/5/09
Hydrology and Floodplain specialist	
Hazardous Waste/Materials specialist Mark Melani	Date: 11/4/08
Visual/Aesthetics specialist Jim Hibbert	Date: 2/10/09
Energy and Climate Change specialist N/A	
Other:	
PEAR Preparer (Name and Title) Karen Thomas, Associate Environmental Planner	Date: 4/1/09

12. 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 an EA or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

o/s Lupe Jimenez — Date: 4/8/09
Environmental Branch Chief

o/s Grace Kim Tell — Date: 4/8/09
Project Manager

REQUIRED ATTACHMENTS:

Attachment A: PEAR Environmental Studies Checklist
Attachment B: Estimated Resources by WBS Code
Attachment C: Schedule (Gantt Chart)
Attachment D: PEAR Environmental Commitments Cost Estimate (Standard PSR)

Attachment A: PEAR Environmental Studies Checklist

Attachment A: PEAR Environmental Studies Checklist

Rev. 11/08

Environmental Studies for PA&ED Checklist					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Land Use	☐	☐	☒	L	
Growth	☐	☐	☒	L	
Farmlands/Timberlands	☒	☐	☐	L	
Community Impacts	☐	☐	☒	L	
Community Character and Cohesion	☐	☐	☒	L	
Relocations	☒	☐	☐	L	
Environmental Justice	☒	☐	☐	L	
Utilities/Emergency Services	☐	☐	☒	L	
Visual/Aesthetics	☐	☐	☒	L	
Cultural Resources:	☐	☐	☒	L	
Archaeological Survey Report	☐	☐	☒	L	
Historic Resources Evaluation Report	☐	☐	☒	L	
Historic Property Survey Report	☐	☐	☒	L	
Historic Resource Compliance Report	☐	☐	☒	L	
Section 106 / PRC 5024 & 5024.5	☐	☐	☒	L	
Native American Coordination	☐	☐	☒	L	
Finding of Effect	☐	☐	☒	M	
Data Recovery Plan	☐	☐	☒	M	
Memorandum of Agreement	☐	☐	☒	M	
Other:	☐	☐	☐	L	
Hydrology and Floodplain	☐	☐	☒	L	
Water Quality and Stormwater Runoff	☐	☐	☒	L	
Geology, Soils, Seismic and Topography	☐	☐	☒	L	
Paleontology	☒	☐	☐	L	
PER	☒	☐	☐	L	
PMP	☒	☐	☐	L	
Hazardous Waste/Materials:	☐	☐	☒	L	
ISA (Additional)	☐	☐	☒	L	
PSI	☐	☐	☐	L	
Other:	☐	☐	☐	L	
Air Quality	☐	☒	☐	L	
Noise and Vibration	☐	☒	☐	L	
Energy and Climate Change	☐	☒	☐	L	
Biological Environment	☐	☐	☒	L	
Natural Environment Study	☐	☐	☒	L	
Section 7:	☐	☐	☒	L	
Formal	☐	☐	☐	L	
Informal	☐	☐	☒	M	
No effect	☐	☐	☐	L	
Section 10	☐	☐	☐	L	
USFWS Consultation	☐	☐	☒	M	
NMFS Consultation	☐	☐	☒	M	
Species of Concern (CNPS, USFS, BLM, S, F)	☐	☐	☒	L	

Environmental Studies for PA&ED Checklist					
	Not anticipated	Memo to file	Report required	Risk* L M H	Comments
Wetlands & Other Waters/Delineation	☐	☐	☒	L	
404(b)(1) Alternatives Analysis	☐	☐	☒	M	
Invasive Species	☐	☒	☐	L	
Wild & Scenic River Consistency	☐	☒	☐	L	
Coastal Management Plan	☐	☒	☐	L	
HMMP	☒	☐	☐	L	
DFG Consistency Determination	☒	☐	☐	L	
2081	☒	☐	☐	L	
Other:	☐	☐	☐	L	
Cumulative Impacts	☐	☒	☐	L	
Context Sensitive Solutions	☐	☒	☐	L	
Section 4(f) Evaluation	☐	☐	☒	M	
Permits:					
401 Certification Coordination	☐	☒	☐	L	
404 Permit Coordination, IP, NWP, or LOP	☐	☒	☐	L	
1602 Agreement Coordination	☐	☒	☐	L	
Local Coastal Development Permit Coordination	☐	☐	☒	H	
State Coastal Development Permit Coordination	☐	☐	☒	H	
NPDES Coordination	☐	☐	☒	L	
US Coast Guard (Section 10)	☐	☐	☒	M	
TRPA	☒	☐	☐	L	
BCDC	☒	☐	☐	L	

Attachment B: Estimated Resources by WBS Code

ATTACHMENT B - Resources by WBS Code
PERT Calculation

EA: 01-40140K

Description: Salmon Creek Br Reconstruction

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Noise/ Air	Sup Svcs	Design	Hydraulics	Landscape	Planning	Right of Way	Surveys	Total	Begin Date	End Date	Duration (Calendar Days)
Assigned Unit	177	157	173	173	174	174	349	170	349	174	183										
Project Management																					
100.10.05 – PA&ED Init. & Plng.	12	12	12	12	12	12	12	12	12	12	12	-	-	12	-	-	-	141			-
100.10.10 – PA&ED Exec. & Ctrl.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.15 – PA&ED Closeout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.20 – PA&ED Project Shelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.25 – PA&ED Project Unshelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.30 – PA&ED Update Admin Record	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.35 – PA&ED Cooperative Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.10.99 - PA&ED Other Proj. Mgmt Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.05 – PS&E Init. & Plng.	12	12	12	12	12	12	12	-	12	12	12	-	-	12	-	-	-	129			-
100.15.10 – PS&E Exec. & Ctrl.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.15 – PS&E Closeout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.20 – PS&E Project Shelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.25 – PS&E Project Unshelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.30 – PS&E Update Admin Record	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.35 – PS&E Cooperative Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.15.99 – PS&E Other Proj. Mgmt. Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.05 – Const. Init. & Plng.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.10 – Const. Exec. & Ctrl.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.15 – Const. Closeout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.20 – Const. Project Shelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.25 – Const. Project Unshelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.30 – Const. Update Admin Record	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.35 – Const. Cooperative Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.20.99 – Const. Other Proj. Mgmt. Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.05 – RW Init. & Plng.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.10 – RW Exec. & Ctrl.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.15 – RW Closeout	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.20 – RW Project Shelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.25 – RW Project Unshelving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.30 – RW Update Admin Record	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.35 – RW Cooperative Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.50 – RW Ex. Coop. Agree. Relinquish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
100.25.99 – RW Other Proj. Mgmt. Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Project Management	23	23	23	23	23	23	23	12	23	23	23	-	-	23	-	-	-	270			-
Preliminary Engineering Studies and Draft Project Report																					
160.05.05 – Approved PID Review	-	11	11	11	-	-	-	-	-	-	-	-	-	65	-	-	-	97			-
160.05.10 – Geotechnical Information Review	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.05.20 – Traffic Data & Forecasts Review	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.05.30 – Project Scope Review	-	-	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
160.05.99 – Other Updated Project Info Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.10.20 – Value Analysis	-	-	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
160.10.25 – Hydraulics/Hydrology Study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.10.30 – Hwy Planting Design Concepts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.10.40 – Updated Right of Way Data Sheets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.10.99 – Other Engineering Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.15.20 – Draft Project Report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.15.25 – Draft PR Circ., Review & Approval	-	-	5	17	-	-	4	-	4	-	-	-	-	65	-	-	-	96			-
160.30.05 – Maps for ESR	-	-	5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	16			-
160.30.10 – Surveys & Mapping for ESR	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
160.30.15 – Prop. Access Rights - Env/Eng Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
160.40 – NEPA Delegation	-	-	11	21	-	-	-	-	-	-	-	-	-	-	-	-	-	32			-
Total Pre. Eng. Studies & Draft PR	-	11	53	92	-	-	4	-	4	-	-	-	-	130	-	-	-	294			-

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Noise/ Air	Sup Svcs	Design	Hydraulics	Landscape	Planning	Right of Way	Surveys	Total	Begin Date	End Date	Duration (Calendar Days)
Assigned Unit	177	157	173	173	174	174	349	170	349	174	183										
Environmental Studies and Draft Environmental Document - Task Management Activities																					
165.05.05 – Project Information Review	11	11	5	11	11	11	11	11	11	11	5	-	-	32	-	-	-	139			-
165.05.10 – Pub & Agency Scoping Process	-	-	5	11	11	-	-	-	-	-	-	-	-	-	-	-	-	27			-
165.05.15 – Alternatives for Further Study	-	-	5	11	-	-	-	-	-	-	-	-	-	-	-	-	-	16			-
165.05.99 – Other Env Scoping Alt ID in PID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.15 – CIA, Land Use & Growth Studies	-	-	-	-	-	-	-	587	-	-	-	-	-	-	-	-	-	587			-
165.10.20 – VIA & Scenic Resource Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	32			-
165.10.25 – Noise Study	-	-	-	-	-	-	-	-	-	213	-	-	-	-	-	-	-	213			-
165.10.30 – Air Quality Study	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	17			-
165.10.35 – Water Quality Studies	-	-	-	-	-	-	-	-	107	-	-	-	-	-	-	-	-	107			-
165.10.40 – Energy Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.45 – Summary Geotech Report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.50 – Hazardous Waste PSI	-	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	128			-
165.10.55 – Draft RW Relocation Impact Doc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.60 – Loc. Hyd. & Floodplain Stdy Rpts.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.65 – Paleontology Study	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.70 – Wild and Scenic Rivers Coordination	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.10.75 – Environmental Commitments Record	-	-	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
165.10.99 – Other Environmental Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.15.05 – Biological Assessment	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
165.15.10 – Wetlands Study	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
165.15.15 – Resource Agcy Permit Related Coord	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
165.15.20 – NES Report	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
165.15.99 – Other Biological Studies	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
165.20.05 – Archaeological Survey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.05.05 – APE/Study Area Map(s)	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.05.10 – Native American Consultation	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.05.15 – Records & Literature Search	-	-	-	-	-	107	-	-	-	-	-	-	-	-	-	-	-	107			-
165.20.05.20 – Field Survey	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.05.25 – ASR	-	-	-	-	-	331	-	-	-	-	-	-	-	-	-	-	-	331			-
165.20.05.99 – Other Archy Survey Products	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.10 – Extended Phase I Archy Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.10.05 – Native American Consultation	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.10.10 – Extended Phase I Proposal	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.10.15 – Extended Phase I Field Inv.	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.10.20 – Extended Phase I Mat. Analysis	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.10.25 – Extended Phase I Report	-	-	-	-	-	192	-	-	-	-	-	-	-	-	-	-	-	192			-
165.20.10.99 – Other Ext Phase I Arcy Prod	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.15 – Phase II Archy Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.15.05 – Native American Consultation	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.15.10 – Phase II Proposal	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.15.15 – Phase II Field Investigation	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.15.20 – Phase II Materials Analysis	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.15.25 – Phase II Report	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.15.99 – Other Ext Phase II Archy Study	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.20 – Hist & Architect Resource Studies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.20.05 – Prelim APE/SAM for Arch.	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.20.10 – HRER - Archaeology	-	-	-	-	-	341	-	-	-	-	-	-	-	-	-	-	-	341			-
165.20.20.15 – HRER - Architecture	-	-	-	-	-	341	-	-	-	-	-	-	-	-	-	-	-	341			-
165.20.20.20 – Bridge Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.20.99 – Other Hist and Arch Resource Prod	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	64			-
165.20.25 – Cultural Res. Comp. Cons. Docs.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.20.25.05 – Final APE/Study Area Maps	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.25.10 – PRC 5024.5 Consultation	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.20.25.15 – HPSR/HRCR	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.25.20 – Finding of Effect (FOE)	-	-	-	-	-	171	-	-	-	-	-	-	-	-	-	-	-	171			-
165.20.25.25 – Archy Data Rec. Pln./Treat. Pln	-	-	-	-	-	1,173	-	-	-	-	-	-	-	-	-	-	-	1,173			-
165.20.25.30 – MOA	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
165.20.25.99 – Other CR Compliance Consult Prod	-	-	-	-	-	128	-	-	-	-	-	-	-	-	-	-	-	128			-
165.25.05 – DED Analysis	11	11	11	21	-	-	-	-	-	-	43	-	-	-	-	-	-	96			-
165.25.10 – Section 4(f) Evaluation	-	-	11	21	-	-	-	-	-	-	-	-	-	-	-	-	-	32			-
165.25.15 – CE/CE Determination	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
165.25.20 – Env. Quality Ctrl. & Other Reviews	11	11	11	43	85	64	-	-	-	43	5	-	-	-	-	-	-	272			-
165.25.25 – Approval to Circulate Resolution	9	9	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	60			-
165.25.30 – Environmental Coordination	-	-	-	320	-	-	-	-	-	-	-	-	-	-	-	-	-	320			-
165.25.99 – Other Draft ED Products	-	-	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-	53			-
165.30 – NEPA Delegation	2	2	11	43	43	64	-	-	-	-	-	-	-	-	-	-	-	164			-
Total Environmental Studies & DED	43	43	69	587	491	6,059	139	597	117	284	53	-	-	64	-	-	-	8,545			-

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Noise/ Air	Sup Svcs	Design	Hydraulics	Landscape	Planning	Right of Way	Surveys	Total	Begin Date	End Date	Duration (Calendar Days)
Assigned Unit	177	157	173	173	174	174	349	170	349	174	183										
Permits, Agreements, and Route Adoptions during PA&ED Componenet - Task Management Activities																					
170.05 – Required Permits	-	-	-	9	21	-	-	-	-	-	-	-	-	-	-	-	-	30			-
170.10.05 – USACE Permit (404)	-	-	-	9	43	-	-	-	-	-	-	-	-	-	-	-	-	51			-
170.10.10 – US Forest Service Permit(s)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.15 – US Coast Guard Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.20 – DFG 1600 Agreement(s)	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
170.10.25 – Coastal Zone Development Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.30 – Local Agency Concurrence/Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.40 – Waste Discharge (NPDES) Permit(s)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.45 – USFWS Approval	-	-	-	9	43	-	-	-	-	-	-	-	-	-	-	-	-	51			-
170.10.50 – RWQCB 401 Permit	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
170.10.60 – Environmental Commitments Record	-	-	-	21	11	43	-	-	-	-	-	-	-	-	-	-	-	75			-
170.10.95 – Other Permits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.45 – MOU from TERO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
170.10.55 – NEPA Delegation	-	-	11	43	43	-	-	-	-	-	-	-	-	-	-	-	-	96			-
Total Permits, Agreements & Route Adoptions	-	-	11	90	245	43	-	-	-	-	-	-	-	-	-	-	-	388			-
Draft Environmental Document Circulation and Preferred Project Alternative Identification - Task Management Activities																					
175.05.05 – Master Dist & Inv Lists	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.05.10 – Notices Regarding Hearing & DED	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.05.15 – DED Publication & Circulation	-	-	-	43	-	128	-	-	-	-	9	-	-	-	-	-	-	179			-
175.05.20 – Federal Consistency Det. (Coastal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
175.05.99 – Other DED Circulation Products	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.10.05 – Need for Public Hearing Det.	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.10.10 – Public Hearing Logistics	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.10.15 – Displays for Public Hearing	-	-	-	21	-	-	-	-	-	-	9	-	-	-	-	-	-	30			-
175.10.20 – 2nd Not. Pub. Hear. & Avail. of DED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
175.10.25 – Map Display & Pub. Hearing Plan	-	-	-	21	-	-	-	-	-	-	9	-	-	-	-	-	-	30			-
175.10.30 – Display Public Hearing Maps	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.10.35 – Public Hearing	-	-	-	21	-	-	-	43	-	21	-	-	-	-	-	-	-	85			-
175.10.40 – Record of Public Hearing	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.10.99 – Other Public Hearing Products	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
175.15 – Public Comment Res. & Corr.	11	11	21	43	-	-	-	43	-	-	-	-	-	-	-	-	-	128			-
175.20 – Project Preferred Alternative	2	2	-	21	-	-	-	-	-	-	9	-	-	-	-	-	-	34			-
175.25 – NEPA Delegation	2	2	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	47			-
Total DED & Preferred Proj. Alt. Identification	15	15	21	384	-	128	-	85	-	21	34	-	-	-	-	-	-	704			-
Project Report and Final Environmental Document																					
180.05.05 – Updated Draft Project Report	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	43			-
180.05.10 – Approved Project Report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.05.15 – Updated Storm Water Data Report	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.05.99 – Other Final Project Report Products	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.10.05 – Approved FED	-	-	21	43	-	-	-	-	-	-	-	-	-	-	-	-	-	64			-
180.10.05.05 – Draft FED Review	-	-	-	21	-	128	-	-	-	-	-	-	-	-	-	-	-	149			-
180.10.05.10 – Revised Draft FED	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
180.10.05.15 – Section 4(f) Evaluation	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	21			-
180.10.05.20 – Findings	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.10.05.25 – Statement of Overriding Consid.	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.10.05.30 – CEQA Certification	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.10.05.35 – FHWA Approval	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.10.05.40 – Section 106 Cons. & MOA	-	-	-	-	-	256	-	-	-	-	-	-	-	-	-	-	-	256			-
180.10.05.45 – Section 7 Consult	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
180.10.05.50 – Final Section 4(f) Statement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.10.05.55 – Floodplain Only PAF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.10.05.60 – Wetlands Only PAF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.10.05.65 – Section 404 Compliance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
180.10.05.70 – Mitigation Measures	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
180.10.10 – Public Dist of FED, Resp to Comments	9	9	21	43	-	-	-	-	-	32	17	-	-	-	-	-	-	130			-
180.10.99 – Other FED Products	-	-	11	21	-	-	-	-	-	-	-	-	-	-	-	-	-	32			-
180.15.05 – ROD (NEPA)	-	2	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.15.10 – NOD (CEQA)	-	2	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.15.20 – Environmental Commitments Record	-	-	-	21	11	13	4	-	4	11	-	-	-	-	-	-	-	64			-
180.15.99 – Other Completed ED Products	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
180.20 – NEPA Delegation	-	-	-	43	-	64	-	-	-	-	-	-	-	-	-	-	-	107			-
Total PR & FED	9	13	53	348	139	461	4	-	4	43	17	-	-	-	-	-	-	1,090			-
Base Maps and Plan Sheets during PS&E Development																					
185.05.05 – Project Concept Review	-	-	-	-	-	-	-	-	51	-	-	-	-	-	-	-	-	51			-
185.05.10 – Updated Project Information	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5			-
185.05.99 – Other Updated Project Info Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
185.15.20 – Value Analysis	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
Total Base Maps and Plan Sheets during PS&E	-	-	-	16	-	-	-	-	51	-	-	-	-	-	-	-	-	67			-

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Noise/ Air	Sup Svcs	Design	Hydraulics	Landscape	Planning	Right of Way	Surveys	Total	Begin Date	End Date	Duration (Calendar Days)
Assigned Unit	177	157	173	173	174	174	349	170	349	174	183										
Right of Way Property Management and Excess Land																					
195.40.20 – Property Maint. & Rehab (Rentable)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.40.25 – Prop. Maint. & Rehab (Non-Rentable)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.40.30 – HW & Hazardous Materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.40.35 – Transfer of Prop to Clearance Status	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.40.99 – Other Property Mgmt Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.45.05 – Excess Lands Inventory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.45.20 – Property Disposal up to $15K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.45.25 – Property Disposal from $15K to $500K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.45.30 – Property Disposal over $500K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
195.45.99 – Other Excess Land Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Base RW Property Mgmt and Excess Land	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Utility Coordination																					
200.15 – Approved Utility Relocation Plan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
200.20 – Utility Relocation Package	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Utility Coordination	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Permits, Agreements & Route Adoptions during PS&E Component - Task Management Activities																					
205.05 – Reqired Permits	-	-	-	21	21	-	-	-	26	-	9	-	-	-	-	-	-	77			-
205.10.05 – USACE Permit (404)	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
205.10.10 – US Forest Service Permit(s)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.10.15 – US Coast Guard Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.10.20 – DFG 1600 Agreement(s)	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
205.10.25 – Coastal Zone Development Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.10.30 – Local Agency Concurrence/Permit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.10.40 – Waste Discharge (NPDES) Permit(s)	-	-	-	-	-	-	-	-	107	-	-	-	-	-	-	-	-	107			-
205.10.45 – USFWS Approval	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	85			-
205.10.50 – RWQCB 401 Permit	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	43			-
205.10.60 – Updated ECR	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	13			-
205.10.95 – Other Permits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.20.05 – Draft Freeway Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.20.10 – Draft Freeway Agreement Review	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.20.15 – Final Freeway Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.20.20 – Executed Freeway Agreement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.25 – Agreement for Material Sites	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.40.99 – Other Route Adoption Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.45 – MOU from TERO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
205.55 – NEPA Delegation	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4			-
Total Agreements & Route Adoptions	2	2	-	21	320	13	-	-	132	-	9	-	-	-	-	-	-	499			-
Right of Way Interests for Project Right of Way Certification																					
225.55.20 – Right of Way Clearance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total RW Interests for Project RW Certification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Draft PS&E																					
230.05.45 – Noise Barrier Plans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.05.65 – Water Pollution Control Plans	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	9			-
230.10.05 – Highway Planting Plans	-	-	-	-	-	-	-	-	85	-	-	-	-	347	-	-	-	432			-
230.10.15 – Plant List	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.30 – Draft Drainage Plans	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.35.10 – Highway Planting Specifications	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.35.35 – Water Pollution Control Specs	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	26			-
230.35.40 – Erosion Control Specifications	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.35.99 – Other Draft Specificiation Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
230.60.05 – Updated Storm Water Data Report	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	9			-
230.60.10 – Other PS&E Reviews & Update PR	-	-	-	-	-	-	4	-	26	-	-	-	-	-	-	-	-	30			-
230.99 – Other Draft PS&E Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Draft PS&E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Environmental Impact Mitigation and Hazardous Waste Clean-up - Task Management Actitivities																					
235.05.05 – Historical Structures Mitigation	-	-	-	-	-	171	-	-	-	-	-	-	-	-	-	-	-	171			-
235.05.10 – Archaeological & Cultural Mitigation	-	-	-	2	-	773	-	-	-	-	-	-	-	-	-	-	-	775			-
235.05.15 – Biological Mitigation	-	-	-	2	21	-	-	-	-	-	-	-	-	-	-	-	-	23			-
235.05.20 – Environmental Mitigation R/W Work	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.05.25 – Paleontology Mitigation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.05.99 – Other Env. Mitigation Products	-	-	-	-	-	-	-	-	-	-	-	-	-	409	-	-	-	409			-
235.10.05 – Right or Permit for HW Site Inv.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.10.10 – HW Sites Survey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.10.15 – Detailed HW Site Investigation	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	85			-
235.15 – HW Management Plan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.20 – HW PS&E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.25 – HW Clean-up	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
235.30 – Certificate of Sufficiency	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	9			-
235.35 – Long Term Mitigation Monitoring	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	-	21			-
235.40 – Updated Environmental Commit. (ECR)	-	-	-	11	-	15	-	-	-	-	-	-	-	-	-	-	-	26			-
235.45 – NEPA Delegation	2	2	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	26			-
Total Env. Impact Mitigation & HW Clean-up	2	2	-	36	43	959	94	-	-	-	-	-	-	409	-	-	-	1,545			-

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio-Economic	Storm Water	Noise/ Air	Sup Svcs	Design	Hydraulics	Landscape	Planning	Right of Way	Surveys	Total	Begin Date	End Date	Duration (Calendar Days)
Assigned Unit	177	157	173	173	174	174	349	170	349	174	183										
Post Right of Way Certification Work																					
245.55.20 – Right of Way Clearance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Post RW Clearance Work	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Final District PS&E Package																					
255.05 – Circ. & Rev. Draft Dist PS&E	-	-	-	21	-	128	4	-	9	2	17	-	-	-	-	-	-	181			-
255.10.25 - Updated Technical Reports	-	-	-	-	-	-	-	-	4	-	-	-	-	13	-	-	-	17			-
255.15 – Environmental Reevaluation	-	-	-	11	-	661	-	-	-	-	-	-	-	-	-	-	-	672			-
255.20.05 – Rev. Plans for Drafting Stds. Comp	-	-	-	-	-	-	-	-	21	-	-	-	-	-	-	-	-	21			-
255.40 – Resident Engineer's Pending File	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
255.45 – NEPA Delegation	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	11			-
Total Final District PS&E Package	-	-	-	53	-	789	4	-	34	2	17	-	-	13	-	-	-	913			-
Contract Bid Documents "Ready to List"																					
260.75 - Env Cert at RTL	-	-	2	11	-	-	4	-	4	-	9	-	-	-	-	-	-	30			-
Total Contract Bid Documents "RTL"	-	-	2	11	-	-	4	-	4	-	9	-	-	-	-	-	-	30			-
Construction Engineering and General Contract Administration																					
270.15.50 – Miscellaneous Stakes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
270.20.05 – Resident Engineer File Review	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
270.20.10 – Proj. Plans, Spec. Prov. & Est. Rev.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
270.20.45 – Cont. WPCP Review	-	-	-	-	-	-	-	-	107	-	-	-	-	-	-	-	-	107			-
270.20.50 – Technical Support	-	-	-	-	-	-	-	-	-	2	213	-	-	45	-	-	-	260			-
270.25.15 – Pre-Construction Meeting	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	5			-
270.30.10 – Inspection of Const. Work for Comp.	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	9			-
270.55 – Final Inspection & Acceptance Recom.	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	9			-
270.70 – Updated ECR	-	-	-	11	-	-	-	-	-	-	2	-	-	-	-	-	-	13			-
270.75 – Resource Agency Permit Ren. & Ext.	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2			-
270.80 – Long Term Env Mit/Mont during Const	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2			-
Total Const Engineering & Gen. Contract Admin.	-	-	-	11	-	-	-	-	107	2	242	-	-	45	-	-	-	406			-
Construction Contract Change Orders																					
285.05.05 – Need for CCO Determination	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2			-
285.10.15 – "Other" Functional Support	-	-	-	-	-	-	9	-	17	-	2	-	-	13	-	-	-	41			-
Total Construction CCOs	-	-	-	-	-	-	9	-	17	-	4	-	-	13	-	-	-	43			-
Construction Contract Claims																					
290.35 – Technical Support	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2			-
Total Construction Contract Claims	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2			-
Contract Acceptance, Final Construction Estimate and Final Report																					
295.35 – Certificate of Environmental Compliance	-	-	-	10	-	62	-	-	-	-	10	-	-	-	-	-	-	82			-
295.40 – Long Term Env Mit/Mont after CCA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-
Total Final Construction	-	-	-	10	-	62	-	-	-	-	10	-	-	-	-	-	-	82			-
Total Project Hours	94	109	234	1,681	1,261	8,537	282	694	495	375	420	-	-	697	-	-	-	14,879			-

Form Updated 8.28.08

ATTACHMENT B - Resources by WBS Code
Most Likely

EA: 01-40110K

Description: Albion Bridge Reconstruction

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
Assigned Unit	**177**	**157**	**174**	**174**	**174**	**174**	**349**	**170**	**349**	**174**	**183**		
Project Management													
100.10.05 – PA&ED Init. & Plng.	11	11	11	11	11	11	11	11	11	11	11	11	132
100.10.99 – PA&ED Other Proj. Mgmt. Products													-
100.15.05 – PS&E Init. & Plng.	11	11	11	11	11	11	11		11	11	11	11	121
Total Project Management	22	22	22	22	22	22	22	11	22	22	22	22	253
Preliminary Engineering Studies and Draft Project Report													
160.05.05 – Approved PID Review		10	10	10								61	91
160.05.10 – Geotechnical Information Review													-
160.05.20 – Traffic Data & Forecasts Review													-
160.05.30 – Project Scope Review			10	10									20
160.05.99 – Other Updated Project Info Products													-
160.10.20 – Value Analysis			10	10									20
160.10.25 – Hydraulics/Hydrology Study													-
160.10.30 – Hwy Planting Design Concepts													-

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
160.10.40 – Updated Right of Way Data Sheets													-
160.10.99 – Other Engineering Studies													-
160.15.20 – Draft Project Report													-
160.15.25 – Draft PR Circ., Review & Approval			5	16			4		4			61	90
160.30.05 – Maps for ESR			5	10									15
160.30.10 – Surveys & Mapping for ESR				10									10
160.30.15 – Prop. Access Rights - Env/Eng Studies													-
160.40 – NEPA Delegation			10	20									30
Total Pre. Eng. Studies & Draft PR	-	10	50	86	-		4	-	4	-	-	122	276
Environmental Studies and Draft Environmental Document - Task Management Activities													
165.05.05 – Project Information Review	10	10	5	10	10	10	10	10	10	10	5	30	130
165.05.10 – Pub & Agency Scoping Process			5	10	10								25
165.05.15 – Alternatives for Further Study			5	10									15
165.05.99 – Other Env Scoping Alt ID in PID													-
165.10.15 – CIA, Land Use & Growth Studies								550					550
165.10.20 – VIA & Scenic Resource Evaluation												30	30
165.10.25 – Noise Study										200			200
165.10.30 – Air Quality Study										16			16
165.10.35 – Water Quality Studies									100				100
165.10.40 – Energy Studies													-
165.10.45 – Summary Geotech Report													-
165.10.50 – Hazardous Waste PSI							120						120
165.10.55 – Draft RW Relocation Impact Doc.													-
165.10.60 – Loc. Hyd. & Floodplain Stdy Rpts.													-
165.10.65 – Paleontology Study													-
165.10.70 – Wild and Scenic Rivers Coordination													-
165.10.75 – Environmental Commitments Record			10	10									20
165.10.99 – Other Environmental Studies													-
165.15.05 – Biological Assessment					80								80
165.15.10 – Wetlands Study					40								40
165.15.15 – Resource Agcy Permit Related Coord					80								80
165.15.20 – NES Report					80								80
165.15.99 – Other Biological Studies					40								40
165.20.05 – Archaeological Survey													-
165.20.05.05 – APE/Study Area Map(s)						60							60
165.20.05.10 – Native American Consultation						120							120
165.20.05.15 – Records & Literature Search						100							100
165.20.05.20 – Field Survey						240							240
165.20.05.25 – ASR						310							310
165.20.05.99 – Other Archy Survey Products						60							60
165.20.10 – Extended Phase I Archy Studies													-
165.20.10.05 – Native American Consultation						120							120
165.20.10.10 – Extended Phase I Proposal						120							120
165.20.10.15 – Extended Phase I Field Inv.						120							120
165.20.10.20 – Extended Phase I Mat. Analysis						60							60
165.20.10.25 – Extended Phase I Report						180							180
165.20.10.99 – Other Ext Phase I Arcy Prod						60							60
165.20.15 – Phase II Archy Studies													-
165.20.15.05 – Native American Consultation						240							240
165.20.15.10 – Phase II Proposal						240							240
165.20.15.15 – Phase II Field Investigation						240							240

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
165.20.15.20 – Phase II Materials Analysis						120							120
165.20.15.25 – Phase II Report						240							240
165.20.15.99 – Other Ext Phase II Archy Study						60							60
165.20.20 – Hist & Architect Resource Studies													-
165.20.20.05 – Prelim APE/SAM for Arch.						60							60
165.20.20.10 – HRER - Archaeology						320							320
165.20.20.15 – HRER - Architecture						320							320
165.20.20.20 – Bridge Evaluation													-
165.20.20.99 – Other Hist and Arch Resource Prod						60							60
165.20.25 – Cultural Res. Comp. Cons. Docs.													-
165.20.25.05 – Final APE/Study Area Maps						120							120
165.20.25.10 – PRC 5024.5 Consultation						120							120
165.20.25.15 – HPSR/HRCR						240							240
165.20.25.20 – Finding of Effect (FOE)						160							160
165.20.25.25 – Archy Data Rec. Pln./Treat. Pln						1,100							1,100
165.20.25.30 – MOA						240							240
165.20.25.99 – Other CR Compliance Consult Prod						120							120
165.25.05 – DED Analysis	10	10	10	20							40		90
165.25.10 – Section 4(f) Evaluation			10	20									30
165.25.15 – CE/CE Determination													-
165.25.20 – Env. Quality Ctrl. & Other Reviews	10	10	10	40	80	60				40	5		255
165.25.25 – Approval to Circulate Resolution	8	8		40									56
165.25.30 – Environmental Coordination				300									300
165.25.99 – Other Draft ED Products				50									50
165.30 – NEPA Delegation	2	2	10	40	40	60							154
Total Environmental Studies & DED	40	40	65	550	460	5,680	130	560	110	266	50	60	8,011
Permits, Agreements, and Route Adoptions during PA&ED Componenet - Task Management Activities													
170.05 – Required Permits				8	20								28
170.10.05 – USACE Permit (404)				8	40								48
170.10.10 – US Forest Service Permit(s)													-
170.10.15 – US Coast Guard Permit													-
170.10.20 – DFG 1600 Agreement(s)					40								40
170.10.25 – Coastal Zone Development Permit													-
170.10.30 – Local Agency Concurrence/Permit													-
170.10.40 – Waste Discharge (NPDES) Permit(s)													-
170.10.45 – USFWS Approval				8	40								48
170.10.50 – RWQCB 401 Permit					40								40
170.10.60 – Environmental Commitments Record				20	10	40							70
170.10.95 – Other Permits													-
170.45 – MOU from TERO													-
170.10.55 – NEPA Delegation			10	40	40								90
Total Permits, Agreements & Route Adoptions	-	-	10	84	230	40	-	-	-	-	-	-	364
Draft Environmental Document Circulation and Preferred Project Alternative Identification - Task Management Activities													
175.05.05 – Master Dist & Inv Lists				20									20
175.05.10 – Notices Regarding Hearing & DED				20									20
175.05.15 – DED Publication & Circulation				40		120					8		168
175.05.20 – Federal Consistency Det. (Coastal)													-
175.05.99 – Other DED Circulation Products				20									20
175.10.05 – Need for Public Hearing Det.				20									20
175.10.10 – Public Hearing Logistics				20									20

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
175.10.15 – Displays for Public Hearing				20							8		28
175.10.20 – 2nd Not. Pub. Hear. & Avail. of DED													-
175.10.25 – Map Display & Pub. Hearing Plan				20							8		28
175.10.30 – Display Public Hearing Maps				20									20
175.10.35 – Public Hearing				20				40		20			80
175.10.40 – Record of Public Hearing				20									20
175.10.99 – Other Public Hearing Products				20									20
175.15 – Public Comment Res. & Corr.	10	10	20	40				40					120
175.20 – Project Preferred Alternative	2	2		20							8		32
175.25 – NEPA Delegation	2	2		40									44
Total DED & Preferred Proj. Alt. Identification	14	14	20	360	-	120	-	80	-	20	32	-	660
Project Report and Final Environmental Document													
180.05.05 – Updated Draft Project Report				40									40
180.05.10 – Approved Project Report													-
180.05.15 – Updated Storm Water Data Report													-
180.05.99 – Other Final Project Report Products				10									10
180.10.05 – Approved FED			20	40									60
180.10.05.05 – Draft FED Review				20		120							140
180.10.05.10 – Revised Draft FED				20									20
180.10.05.15 – Section 4(f) Evaluation				20									20
180.10.05.20 – Findings				10									10
180.10.05.25 – Statement of Overriding Consid.				10									10
180.10.05.30 – CEQA Certification				10									10
180.10.05.35 – FHWA Approval													-
180.10.05.40 – Section 106 Cons. & MOA						240							240
180.10.05.45 – Section 7 Consult					80								80
180.10.05.50 – Final Section 4(f) Statement													-
180.10.05.55 – Floodplain Only PAF													-
180.10.05.60 – Wetlands Only PAF													-
180.10.05.65 – Section 404 Compliance													-
180.10.05.70 – Mitigation Measures					40								40
180.10.10 – Public Dist of FED, Resp to Comments	8	8	20	40						30	16		122
180.10.99 – Other FED Products			10	20									30
180.15.05 – ROD (NEPA)		2		8									10
180.15.10 – NOD (CEQA)		2		8									10
180.15.20 – Environmental Commitments Record				20	10	12	4		4	10			60
180.15.99 – Other Completed ED Products				10									10
180.20 – NEPA Delegation				40		60							100
Total PR & FED	8	12	50	326	130	432	4	-	4	40	16	-	1,022
Base Maps and Plan Sheets during PS&E Development													
185.05.05 – Project Concept Review									48				48
185.05.10 – Updated Project Information				5									5
185.05.99 – Other Updated Project Info Products													-
185.15.20 – Value Analysis				10									10
Total Base Maps and Plan Sheets during PS&E	-	-	-	15	-		-	-	48	-	-	-	63

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
Permits, Agreements & Route Adoptions during PS&E Component - Task Management Activities													
205.05 – Required Permits				20	20				24		8		72
205.10.05 – USACE Permit (404)					80								80
205.10.10 – US Forest Service Permit(s)													-
205.10.15 – US Coast Guard Permit													-
205.10.20 – DFG 1600 Agreement(s)					80								80
205.10.25 – Coastal Zone Development Permit													-
205.10.30 – Local Agency Concurrence/Permit													-
205.10.40 – Waste Discharge (NPDES) Permit(s)									100				100
205.10.45 – USFWS Approval					80								80
205.10.50 – RWQCB 401 Permit					40								40
205.10.60 – Updated ECR						12							12
205.10.95 – Other Permits													-
205.20.05 – Draft Freeway Agreement													-
205.20.10 – Draft Freeway Agreement Review													-
205.20.15 – Final Freeway Agreement													-
205.20.20 – Executed Freeway Agreement													-
205.25 – Agreement for Material Sites													-
205.40.99 – Other Route Adoption Products													-
205.45 – MOU from TERO													-
205.55 – NEPA Delegation	2	2											4
Total Agreements & Route Adoptions	2	2	-	20	300	12	-	-	124	-	8	-	468
Draft PS&E													
230.05.45 – Noise Barrier Plans													-
230.05.65 – Water Pollution Control Plans									8				8
230.10.05 – Highway Planting Plans									80			325	405
230.10.15 – Plant List													-
230.30 – Draft Drainage Plans													-
230.35.10 – Highway Planting Specifications													-
230.35.35 – Water Pollution Control Specs									24				24
230.35.40 – Erosion Control Specifications													-
230.35.99 – Other Draft Specificiation Products												-	-
230.60.05 – Updated Storm Water Data Report									8				8

WBS Task Activity Code	Division Chief	Office Chief	Senior	Coord	Biology	Cultural	Haz Waste	Socio- Economic	Storm Water	Noise/Air	Sup Svcs	Landscape	Total
230.60.10 – Other PS&E Reviews & Update PR							4		24			-	28
230.99 – Other Draft PS&E Products													-
Total Draft PS&E	-	-	-	-	-	-	4	-	144	-	-	325	473
Environmental Impact Mitigation and Hazardous Waste Clean-up - Task Management Actitivities													
235.05.05 – Historical Structures Mitigation						160							160
235.05.10 – Archaeological & Cultural Mitigation				2		725							727
235.05.15 – Biological Mitigation				2	20								22
235.05.20 – Environmental Mitigation R/W Work													-
235.05.25 – Paleontology Mitigation													-
235.05.99 – Other Env. Mitigation Products												383	383
235.10.05 – Right or Permit for HW Site Inv.													-
235.10.10 – HW Sites Survey													-
235.10.15 – Detailed HW Site Investigation							80						80
235.15 – HW Management Plan													-
235.20 – HW PS&E													-
235.25 – HW Clean-up													-
235.30 – Certificate of Sufficiency							8						8
235.35 – Long Term Mitigation Monitoring					20								20
235.40 – Updated Environmental Commit. (ECR)				10		14							24
235.45 – NEPA Delegation	2	2		20									24
Total Env. Impact Mitigation & HW Clean-up	2	2	-	34	40	899	88	-	-	-	-	383	1,448
Post Right of Way Certification Work													
245.55.20 – Right of Way Clearance													-
Total Post RW Clearance Work	-	-	-	-	-		-	-	-	-	-	-	-
Final District PS&E Package													
255.05 – Circ. & Rev. Draft Dist PS&E				20		120	4		8	2	16		170
255.10.25 - Updated Technical Reports									4			12	16
255.15 – Environmental Reevaluation				10		620							630
255.20.05 – Rev. Plans for Drafting Stds. Comp									20				20
255.40 – Resident Engineer's Pending File				10									10
255.45 – NEPA Delegation				10									10
Total Final District PS&E Package	-	-	-	50	-	740	4	-	32	2	16	12	856
Contract Bid Documents "Ready to List"													
260.75 - Env Cert at RTL			2	10			4		4		8		28
Total Contract Bid Documents "RTL"	-	-	2	10	-		4	-	4	-	8	-	28
Construction Engineering and General Contract Administration													
270.15.50 – Miscellaneous Stakes													-
270.20.05 – Resident Engineer File Review													-
270.20.10 – Proj. Plans, Spec. Prov. & Est. Rev.													-
270.20.45 – Cont. WPCP Review									100				100
270.20.50 – Technical Support										2	200	42	244
270.25.15 – Pre-Construction Meeting											5		5
270.30.10 – Inspection of Const. Work for Comp.											8		8
270.55 – Final Inspection & Acceptance Recom.											8		8
270.70 – Updated ECR				10							2		12
270.75 – Resource Agency Permit Ren. & Ext.											2		2
270.80 – Long Term Env Mit/Mont during Const											2		2
Total Const Engineering & Gen. Contract Admin.	-	-	-	10	-		-	-	100	2	227	42	381
Construction Contract Change Orders													
285.05.05 – Need for CCO Determination											2		2
285.10.15 – "Other" Functional Support							8		16		2	12	38
Total Construction CCOs	-	-	-	-	-		8	-	16	-	4	12	40
Construction Contract Claims													
290.35 – Techinical Support											2		2
Total Construction Contract Claims	-	-	-	-	-		-	-	-	-	2	-	2
Contract Acceptance, Final Construction Estimate and Final Report													
295.35 – Certificate of Environmental Compliance				10		60					10		80
295.40 – Long Term Env Mit/Mont after CCA													-
Total Final Construction	-	-	-	10	-		-	-	-	-	10	-	80
Total Project Hours	88	102	219	1,577	1,182	7,945	268	651	608	352	395	978	14,425

Attachment D: PEAR Environmental Commitments Cost Estimate (Standard PSR)

Attachment D: PEAR Environmental Commitments Cost Estimate

Standard PSR Only

(Prepare a separate form for each viable alternative described in the Project Study Report)

PART 1 PROJECT INFORMATION *rev. 11/08*

District-County-Route-Post Mile 01 Men 1, 43.3/44.1	EA: 01-40110k
Project Description: Albion River Bridge replacement and realignment	
Form completed by (Name/District Office): Karen Thomas, District 3, S4	
Project Manager: Grace Tell	Phone Number: 274-0656
Date: 4/1/09	

PART 2 PERMITS AND AGREEMENTS

	Permits and Agreements **($$)**
☒ Fish and Game 1602 Agreement	4000
☒ Coastal Development Permit	0
☒ State Lands Agreement	3025
☒ Section 401 Water Quality Certification	5000
☒ Section 404 Permit – Nationwide (U.S. Army Corps)	0
☒ Section 404 Permit – Individual (U.S. Army Corps)	0
☒ Section 10 Navigable Waters Permit (U.S. Army Corps)	0
☐ Section 9 Permit (U.S. Coast Guard)	0
☐ Other:	0
Total (enter zeros if no cost)	9000

PART 3. ENVIRONMENTAL COMMITMENTS FOR PERMANENT IMPACTS

To complete the following information:

- Report costs in $1,000s.
- Include all costs to complete the commitment:
  - Capital outlay and staff support. Refer to Estimated Resources by WBS Code. For example, if you estimated 80 hours for biological monitoring (WBS 235.35 Long Term Mitigation Monitoring), convert those hours to a dollar amount for this entry. For current conversion rates from PY to dollars, see the Project Manager.
  - Cost of right of way or easements.
  - If compensatory mitigation is anticipated (for wetlands, for example), insert a range for purchasing credits in a mitigation bank.
  - Long-term monitoring and reporting
  - Any follow-up maintenance
  - Use current costs; the Project Manager will add an appropriate escalation factor.
  - This is an estimating tool, so a range is not only acceptable, but advisable.

Environmental Commitments Alternative all		
	Estimated Cost in $1,000's	Notes
Noise abatement or mitigation	0	
Special landscaping		
Archaeological resources	700	
Biological resources	200	
Historical resources	700	
Scenic resources		
Wetland/riparian resources	140	
Res./bus. relocations		
Other:		
Total (enter zeros if no cost)		

ATTACHMENT N

PROGRAMMING SHEET

PROGRAMMING SHEET

Project Manager: GRACE TELL

01-MEN-001 PM 043.7 / 043.8
EA 01-40110K
201.110 SHOPP

Date: 25-Aug-09

PROJECT SCHEDULE

MILESTONE	DATE
Begin Environmental Document (M020)	10/1/2010
Begin Project Report (M040) (Begin Design of Project)	7/1/2010
Circulate Environmental Document (M120)	10/1/2013
Project Approval & Environmental Document (M200)	2/1/2014
District Submits Bridge Site Data to Structures (M221)	2/1/2014
Right of Way Maps (M224)	5/1/2014
Draft Structures Plans, Specifications & Estimate (M378)	8/1/2015
Project Plans, Specifications & Estimate (M380)	12/1/2015
Right of Way Certification (M410)	4/1/2016
Ready to List (M460)	4/15/2016
HQ Advertise (M480)	6/1/2016
Approve Construction Contract (M500)	10/1/2016
Contract Acceptance (M600)	11/1/2019

Escalation Factors Used: Capital: 3.5%
Support:1.5%

2009 COSTS
Const: $ 42,093
R/W: $ 2,607

PROJECT COSTS BY SB45 CATEGORY

Costs are in thousands of dollars

CAPITAL COSTS	09/10	10/11	11/12	12/13	13/14	14/15	FUTURE	TOTAL
Right of Way	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,621	$ 3,621
Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,933	$ 50,933
							CAPITAL TOTAL	$ 54,554
SUPPORT COSTS								
Environmental	$ -	$ 629	$ 717	$ 729	$ 1,028	$ -	$ -	$ 3,104
Design	$ -	$ -	$ -	$ -	$ 1,121	$ 2,778	$ 1,265	$ 5,164
Right of Way	$ -	$ -	$ -	$ -	$ 295	$ 174	$ 324	$ 794
Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,416	$ 4,416
							SUPPORT COSTS	$ 13,478
							TOTAL PROJECT COSTS	$ 68,031
							SUPPORT TO CAPITAL RATIO/%	25%
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

SUPPORT PY'S by DIVISION
Number of Hours in a PY: 1758

PROJECT SUPPORT IN PYS

	09/10	10/11	11/12	12/13	13/14	14/15	FUTURE	TOTAL
Transportation Planning	0.00	1.79	2.31	2.31	4.07	1.29	1.77	13.5
District Design	0.00	1.57	1.61	1.61	7.10	7.27	5.93	25.1
Right of Way	0.00	0.07	0.08	0.08	0.13	1.34	6.52	8.2
District Construction	0.00	0.02	0.02	0.02	0.09	0.09	5.16	5.4
DES Design	0.00	0.71	0.71	0.71	3.28	7.22	7.15	19.8
DES Construction	0.00	0.02	0.02	0.02	0.04	0.08	11.20	11.4
TOTAL	0.00	4.17	4.75	4.74	14.71	17.28	37.74	83.4

Comments: