



Project Scope Summary Report

263 Klamath River Bridge Replacement

02-SIS-263 PM 57.1

PPNO 3424

02 0000 0586

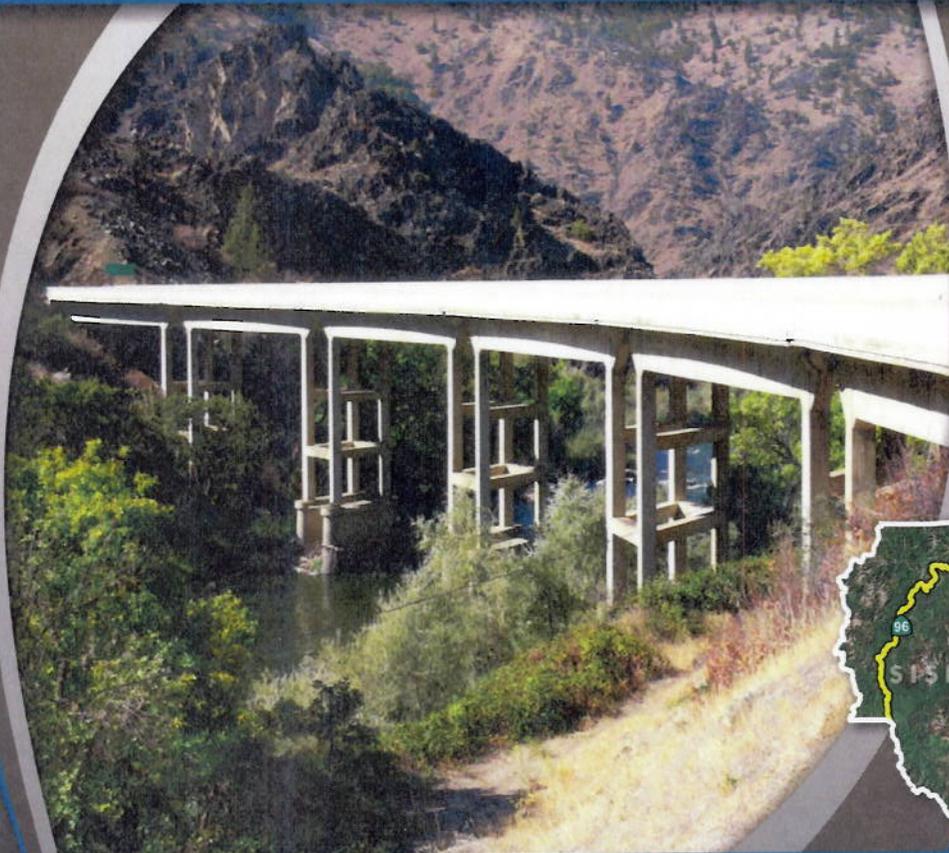
02-2E480 K

September 2011



PROJECT LOCATION

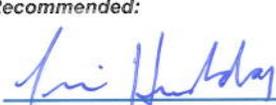
In Siskiyou County
about 8 miles
north of Yreka at
Klamath River Bridge



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


KAREN HAWKINS
North Region Right of Way Manager
9/9/11
Date

Approval Recommended:


TIM HUCKABAY, P.E.
Project Manager, District 2
9-9-11
Date


EDWARD LAMKIN, P.E.
Deputy District Director
Maintenance and Operations, District 2
SHOPP Program Manager
9/9/11
Date

Approved By:


JOHN BULINSKI, P.E.
District Director, District 2
9/9/11
Date



Report Signature Sheet



This Project Study Report (Project Development Support) has been prepared under the direction of the following Registered Civil Engineer. The Registered Civil Engineer attests to the best of his knowledge the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions and decisions are based.

Mark J. Miller 9/9/11
Mark J. Miller, P.E. Date
Registered Civil Engineer

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1. INTRODUCTION

This Project Scope Summary Report proposes to replace the State Route (SR) 263 Bridge over the Klamath River (02-0015) while realigning State Route (SR) 263 to improve intersection geometrics with SR 96 in Siskiyou County.

Type of Facility:	2-Lane Conventional Highway (Rural)
Number of Alternatives:	Three (3) plus no build
Construction Capital Cost:	\$7.9 Million
Support Cost:	\$4.5 Million
Right of Way Costs:	\$300 K
Funding Source:	2012 SHOPP
Project Program:	20.XX.210.110
Programming Alternative:	Alternative 1
Number of Working Days:	250 est.
Performance Indicator:	1 Bridge Replaced 600 feet Bridge Rail Replaced
Anticipated Environmental Document:	EIR (CEQA) / Environmental Assessment with a FONSI (NEPA)
Proposed Construction Yr.	2015/2016
District-County-Route PM Limits:	02-SIS-263 PM-56.5 –57.8 02-SIS-96 PM-102.5 – 103.5
Legal Description of Project Limits:	In Siskiyou County About 8 miles North of Yreka at the Klamath River Bridge



Figure 1: Project Location Map
 This project is located along State Route 263 between Yreka and the intersection with Route 96 near Interstate 5.



Existing Structure Conditions
 (View to South)

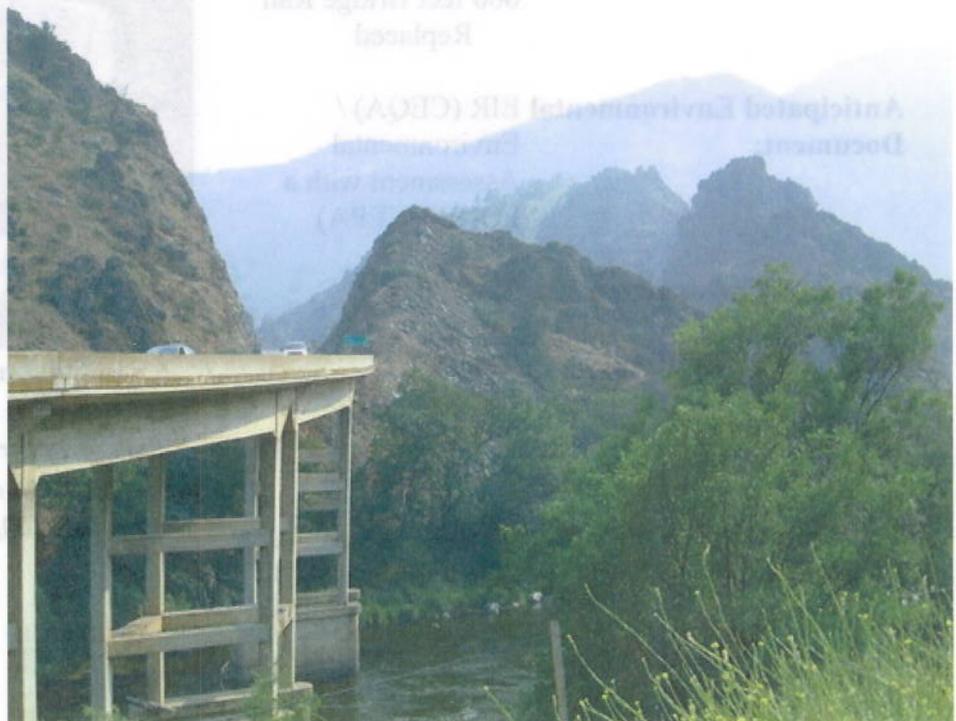
This structure is classified as structurally deficient with a sufficiency rating of 47 out of a possible 100, and a structural health Index of 58.

2. BACKGROUND

The Klamath River Bridge is situated immediately south of the junction of SR 263 and 96 in a rugged mountainous area near Yreka in Siskiyou County. The bridge was constructed in 1931 as the last major structure in a series of dramatic bridges along the main historic route connecting central California to Oregon. The bridge served as a critical link along the route until Interstate 5 was completed in the mid 1960's, approximately 2 miles east of the bridge. Presently, the 8 mile long highway connects the city of Yreka to SR 96, and the river communities to the west, and serves as an alternate route for travelers on Interstate 5 (I-5). It is frequented by trucks avoiding the long incline of I-5, and inclement winter driving conditions or the occasional closure affecting the interstate.

Because this bridge once served as part of the primary north-south corridor prior to the construction of Interstate 5, the structure crosses the river at a high skew suited to continuing northward. Since then, communities along the river have become the primary trip generator for most bridge users. Due to many factors including rugged canyon terrain, proximity to the Klamath River Bridge and low traffic volumes, this junction remains a very irregular one. Traffic negotiating turns to and from SR 263 must make an approximately 160 degree turn without the benefit of a left turn pocket or adequate turning radii. Truck and larger vehicle traffic must make an out of lane turning movements to complete movements to or from the south on SR 263, and often must cross oncoming lanes to take refuge on the opposite shoulder in order to make the turn.

Highway 263 pre-dates the construction of the highway now designated as Route 96, which connects Route 299 at Willow Creek to Happy Camp, and continues north to I-5. Route 96 serves as the main arterial connecting the communities along the Klamath River. Since the river canyon has limited room for realignment, and the unusual bridge geometry, the junction of routes 96 and 263 has been improved very little over time.



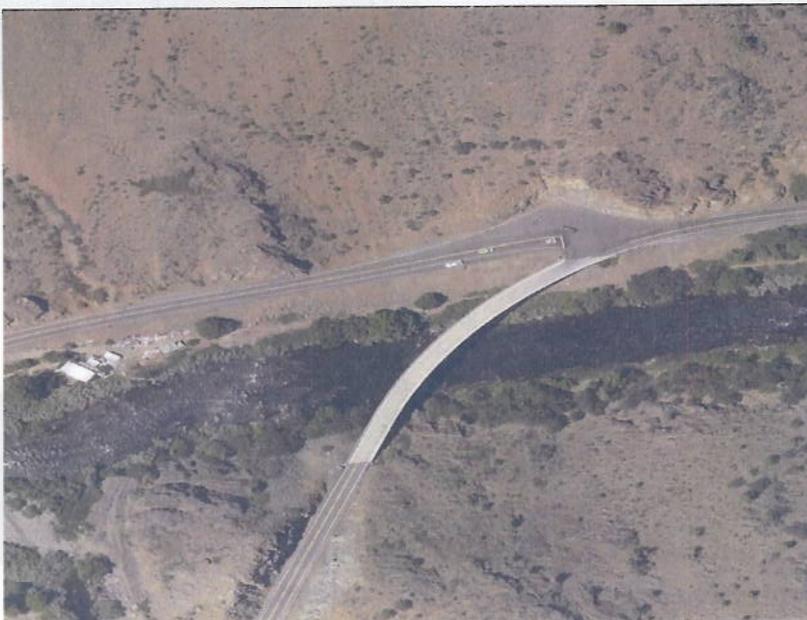
3. NEED AND PURPOSE:

The Purpose of this project is to provide the traveling public a safe and durable bridge. Secondary purposes are to substantially reduce maintenance, provide standard shoulders and improve the intersection geometrics.

The Klamath River bridge is 80 years old - well beyond its service and functional life. Since 1995, the Klamath River Bridge (02-0015) continues to have heavy concrete deterioration and spalling throughout the structure. It has been observed that the spans sag. The piers are experiencing scour which compromises the structural stability of the structure. The structure has been the subject of numerous high cost maintenance strategies and repairs including the most recent emergency deck repair that took place in 2009. The existing shoulders and bridge rail does not meet current standards. The adjacent intersection at Route 97 does not meet current geometric standards.



Bridge 02-0015 Deflection of soffit concrete at large crack (from 0" to 1.25") prior to emergency deck repair in 2009.



Aerial image of the Klamath River Bridge and the intersection of Routes 96 and 263.

4. HISTORY:

The Klamath River Bridge #02-0015 has had a long history of maintenance concerns. Problems with the structural concrete and reinforcement steel were reported as early as 1951. Since that time, investigations indicate the bridge suffers from deterioration involving most of the reinforced concrete elements as a result of age and road salt exposure. Inspections have revealed numerous examples of cracking, spalling concrete, and delaminating of reinforcement steel.

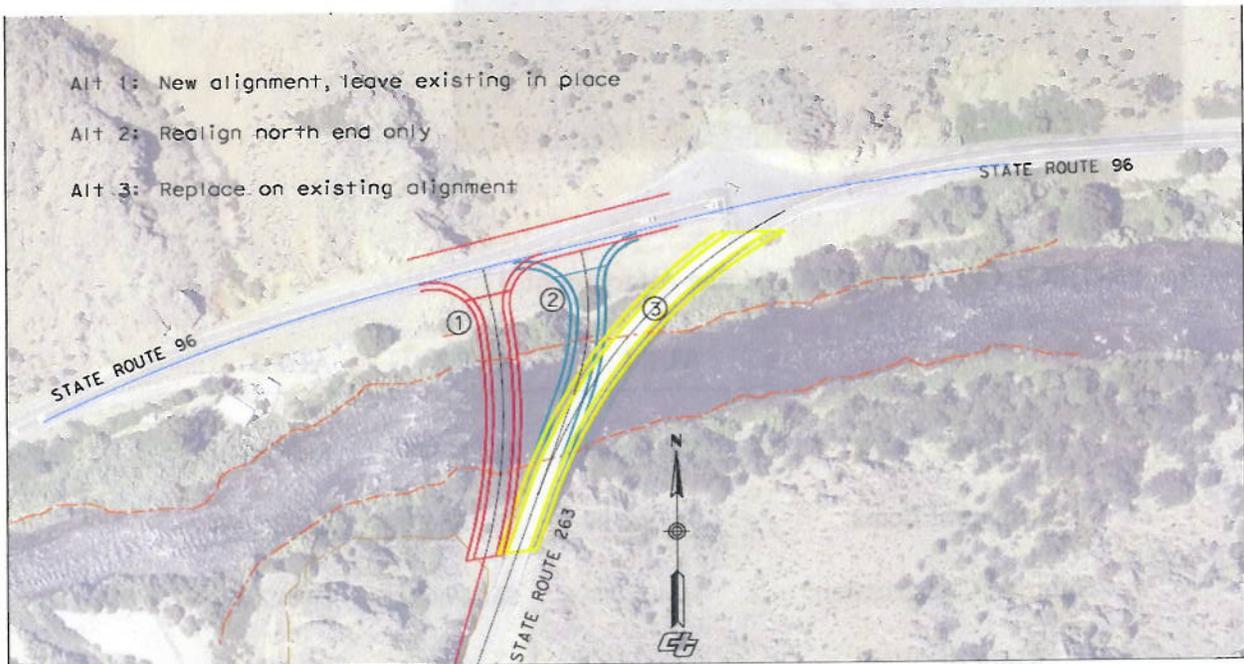
Several rehabilitation efforts have strengthened the deck, but continued deterioration of the diaphragm elements near columns and the piers has been noted in year over year inspections. Cracks have been monitored for stability; however some locations have recently become severe, prompting load restrictions and timely repairs.

Extensive deck repairs and a surface seal replacement were performed in the summer 2009. As a precaution against further deterioration, the structure's load rating was downgraded in 2008 from PFFFF to XXXXX, This designation does not allow for any extra-legal (permit) loads, but the bridge remains open to legally loaded trucks. The current structural sufficiency rating is 47.0 and the structural health index of 58.0. Both the rating and index range from 0 to 100 and both of these numbers indicate the structure is in poor condition. A structural sufficiency rating of 50 or less indicates the bridge should be replaced. The initial Average Sufficiency Rating of National Highway System (NHS) bridges in 2006 was 82.8. The Average Health Index of NHS bridges in 2006 was 91.1.



Existing corrosion and delaminating at deck soffit.

- **Alternative 1** replaces the existing bridge with a new 302' ± structure on a new alignment which will provide for a more desirable intersection without skew angles and improved sight distance. In addition, this alternative would allow for the existing bridge to remain in service during construction and then removed. Although this alternative requires the most earthwork and right of way may need to be acquired it will utilize minimum traffic control and staging.
- **Alternative 2** replaces the existing bridge with a 342' ± structure on a modified alignment. The advantages of this alternative are a reduced environmental footprint and the reduction of earthwork compared to Alternative 1. This alternative improves the intersection alignment, but would not provide standard stopping sight distance. A fact sheet for an exception to design standard would be required. The existing bridge must be removed and the route would be detoured for the duration of construction.
- **Alternative 3** would replace the existing structure on a similar alignment. It would not significantly modify the existing intersection of the two highways and requires Stage Construction. Due to the much larger structure needed on this alignment, no significant cost savings should be anticipated. This alternative would be the smallest environmental impact and require very little if any new right of way.



Advance Planning Study Bridge (02-0015) Replacement Alternatives.

6. PREFERRED ALTERNATIVE FOR FUNDING PURPOSES:

Alternative 1 is preferred; New Bridge replacement on a new alignment with upgraded T-intersection. The estimated construction and right of way cost of this option is \$7.0 million.

Performance Measures

- **1 New bridge**
- **600 linear feet of bridge rail upgraded**
- **Widening of roadway at Intersection**



Alt 1. New Structure with an improved Intersection of Route 263 and Route 96, in Siskiyou County.

7. PROJECT COST ESTIMATE (See Attachment B)

	ALT 1	ALT 2	ALT 3
Roadway Items:	\$2,211,900	\$1,881,000	\$1,200,400
Structural Items:	\$4,193,100	\$4,778,600	\$5,326,600
Subtotal Construction:	\$6,405,000	\$6,659,600	\$6,527,000
Right of Way:	\$211,000	\$9,000	\$9,000
CCTV & CMS:	\$350,000	\$350,000	\$350,000
TOTAL COST:	\$7,000,000	\$7,000,000	\$6,900,000

8. EXISTING FACILITIES/TRAFFIC CONDITIONS:

The project is consistent with the current (2004) SR 263 Transportation Concept Reports (TCR) for each of the routes affected. Both the bridge replacement and the highway junction have been identified as potential improvements. The existing facility at this location is a 2-lane highway with 0-1 foot shoulders. The 20 year and post 20 year facility concept for this location is a 2-lane conventional highway with four foot wide shoulders.

9. TRAFFIC DATA:

TABLE 1A. Traffic Data Sis-263-57.07-57.2

Present ADT (2009):	990	Construction Year ADT (2015):	996
20 Year DHV (2032):	1016	% Trucks:	11%
20 Year TI:	8.5	Directional Split:	50%

The following accident information was obtained for the intersection PM 57.194 in Siskiyou County from Transportation System Network (TSN) for the 60 month period between 04/01/2005 and 03/31/2010.

There were 2 total reported crashes coded to this highway intersection. One was an injury broadside that involved a northbound left turning vehicle that failed to yield and hit a westbound motorcycle. The other was a non-injury single vehicle crash at the bridge rail as a result of inattention.

**TABLE 1B. Accident Information Sis 263 PM 57.194
 From 04/01/05 to 03/31/10**

Accident Rates *	Actual	Average
Total Accident Rate (acc/mv)	0.65	0.20
F+ 1 Accident Rate (acc/mv)	0.33	0.08
Fatal Accident Rate (acc/mv)	0	0.003

*Rates are expressed as accidents per million vehicles

There were two accidents over the 60 month time period cited above. One was an injury broadside accident that involved a northbound left turning vehicle that failed to yield and hit a westbound motorcycle. The other accident was a non-injury single vehicle crash at the ridge rail as a result of inattention. The realigned intersection and wider shoulders should improve safety

Safety Improvement Summary; Based on a safety review, the District 2 Traffic Operations Office has recommended the following comments for this project. These will be incorporated into the project scope:

- SR-263 and this segment of SR-96 are Terminal Access Route to the National Network for STAA trucks. Therefore, the new intersection should be designed using STAA truck-turn templates. (*Highway Design Manual – Topic 404*). Also terminal access signs should be installed as appropriate to guide STAA trucks through the intersection.
- The new structure should use Concrete Barrier Type 736 with bicycle railing.
- It is recommended that the designer work with the District Safety Systems Coordinator to determine the necessary guardrail length and appropriate end treatment installation for all four corners of the proposed structure.
- Although left turn channelization for West Bound 96 to South Bound 263 traffic would provide operational benefits at the intersection, the required widening will likely require extensive earthwork. With this in mind, and the low traffic volumes on both state routes at this location, left turn channelization is not necessary.
- Where dike is needed in fill areas, either a low dike (Type C) or mountable dike (Type E or D) should be used. Standard Plan (May 2006) A77E1 should be followed when dike is necessary at MBGR locations.
- Drainage inlets located adjacent to, or within, the paved outside shoulders should be flush with the finished grade and have bicycle proof grates.
- Per the District's Recessed Retro-reflective Pavement Marker Map, no recessed markers are needed within the project limits. It would be appropriate to use sprayable thermoplastic traffic stripe for this project.
- It is a District 2 goal to provide intersection lighting at all State Route Junctions. Depending on the cost to bring in commercial power to the proposed intersection, this project should consider intersection lighting.
- All signs within the project limits should be replaced with new installations.

10. GEOMETRIC INFORMATION:

SR 263 and SR 96 have a roadbed between 24 and 26 feet in width at the project location. In accordance with the minimum requirements of the Highway Design Manual, this project proposes construction of 12 feet lanes and 8 feet shoulders for the new SR 263 Bridge (02-0015) and at the intersection with SR 96. Alternative 1 meets geometric standards.

11. RIGHT OF WAY:

The existing right of way for this segment of Route 263 varies in width from 100 to 400 feet. Due to the location of the route prior to the construction of the current facility, additional right of way may not be required for replacement bridge construction alone. However, the improvements at SR 96

and 263 intersection located near the north end of the bridge are likely to require widening in areas of steep terrain. The high cuts and potential fills may require additional right of way. A single residential property would likely be affected by the realignment of the bridge or improvement of the intersection. An unpaved driveway currently connects to SR 96 at a very high skew angle to serve the property. Widening the connection may not be feasible. The angle to the roadway and limited shoulder would leave little room for safe ingress and egress, and close proximity to the edge of traveled way possibly may affect the safe occupancy of the structure. Acquiring the entire property is the likely scenario for improving intersection alignment.

12. ENVIRONMENTAL STATUS: (See Attachment C)

A Mini Preliminary Environmental Assessment Report (Mini-PEAR) prepared for this project has identified numerous environmental concerns that will require investigation. The anticipated Environmental Document is EIR/FONSI primarily due to section 4F criteria for the existing bridge being eligible for listing as an historic bridge, but not currently recognized as historically significant. Permits will be required for working in the channel of the Klamath River (a critically impaired water body supporting endangered species) from the Department of Fish and Game and the Army Corps of Engineers.

13. HYDRAULIC RECOMMENDATIONS:

The following are recommendations that should be considered in the project scope and preliminary design:

- Any fill placed adjacent to the Klamath River should not restrict flow to a greater than the existing bridge fill. This will avoid any potential increases in water surface elevations upstream.
- Because the existing bridge is around 30 feet above the apparent high water elevation, the profile grade could potentially be adjusted up or down for the new bridge if needed. A detailed hydrology study should be obtained on the Klamath River to determine the 100-year water surface elevation and what the minimum bridge soffit elevation should be.
- Fish passage must be considered for all new crossings. This may limit the types of falsework and temporary work platforms that can be used. Further coordination with the Department of Fish and Game will be required.
- The drainage facilities within the project limits should be replaced to provide a safer roadside, 50-year service life, and adjustments in configuration to fit the new roadway width and alignment. This would likely include about five 24" culverts with type GCP inlets and RSP energy dissipaters.

14. FUNDING/SCHEDULING

The project is proposed to be amended into the 2012 State Highway Operation and Protection

Program (SHOPP) in the 2015/2016 fiscal year. It is eligible for federal aid.

- **Capital and Support Costs**

NOTE		CAPITAL & SUPPORT COSTS BY PROGRAM AND PROJECT FUNDING COMPONENT (Klamath River Bridge Replacement)						
Please provide input to all yellow cells								
Program	Component	"Baseline" (Original Identified Hours and Funding)						
EA 02-2E480 02 0000 0586		Planned (Hours)	Loaded Rate Estimate (\$/Hr.)	Prior Allocation	Initial Programming Expectation		Total Component Funding	Support/Capital (%)
					Direct Charges	Indirect Charges		
201.110	PA&ED	15,000	\$93.00	\$0	\$941	\$454	\$1,400	17%
201.110	PS&E	15,000	\$95.00	\$0	\$962	\$463	\$1,500	18%
201.110	R/W	1,500	\$85.00	\$0	\$86	\$41	\$130	2%
201.110	CON	16,000	\$93.00	\$0	\$1,004	\$484	\$1,500	18%
SUPPORT SUBTOTAL		47,500		\$0	\$2,993	\$1,442	\$4,530	55%
		Baseline	Escalation	Program Funding Total	<i>Support is based on bottoms up plus escalations.</i> PPM Deputy Directors Initials <i>Se</i> 9/7/11			
201.110	R/W Capital	\$211	\$45.5	\$300				
201.110	Construction	\$5,440	\$803	\$6,300				
201.110	Con Contingencies	\$1,360	\$201	\$1,600				
201.110	Con Capital total	\$6,800	\$1,003	\$7,900				
CAPITAL SUBTOTAL		\$7,011	\$1,049	\$8,200				
TOTALS		\$7,222		\$12,730				
Rate Information		Input	Historic Program Support/Capital Cost Data (%)					
Capital Contingency Rate %		25%	RANGE	Lowest Similar Project		60.30%		
ICRP Rate %		32.52%		Highest Similar Project		92.40%		
Escalation Rate Construction		3.50%		Average Similar Project		69.90%		
Escalation Rate R/W		5.00%	Cumulative 2012 SHOPP Support/Capital					25.20%
# of years to escalate		4						

- **Scheduling**

Schedule Information				
Milestones	Description	Current Schedule	Old Schedule	Schedule Duration
M000	ID Neec	08/15/11		
M010	Approve PID	09/01/11		
M015	Program Project	03/01/12		
M040	Begin Project	07/01/12		
M020	Begin Environmental	09/01/12		
M224	Right of Way Maps	12/01/12		
M225	Regular Right of Way	03/01/13		
M221	Bridge Site Data Acpt	04/01/13		
M120	Circulate DED	05/01/14		
M275	General Plans	12/01/13		
M200	PA&ED	09/01/14		
	Structures P&Q	01/15/15		
M378	Draft Structures PS&E	03/15/15		
M377	P&E to DOE	04/15/15		
	Structures Final PS&E	07/15/15		
M380	HQ Project PS&E	08/15/15		
M410	Right of Way Certification	09/01/15		
M460	Ready to List	01/03/16		
M470	CTC Vote	02/15/16		
M480	HQ Advertise	03/15/16		
M490	Bid Opening	05/01/16		
M495	Award	06/01/16		
M500	Approve Contract	07/01/16		
M600	Contract Acceptance	01/15/19		
M700	Final Report	07/15/19		
M800	End Project	01/01/20		
	Permits PAED to RTL		Time Given	
	M200	09/01/14		
	M460	01/03/16	16 months	
	PAED to PE		Time Given	
	M200	09/01/14		
	M377	04/15/15	7 months	
	Environmental		Time Given	
M040	Begin Project	07/01/12		
M020	Begin Environmental	09/01/12	2 months	
M120	Circulate DED	05/01/14	20 months	
M200	PA&ED	09/01/14	4 months	
total time	M020 to M200		24 months	
	Right of Way		Time Given	
M040	Begin Project	07/01/12		
M224	Right of Way Maps	12/01/12	5 months	
M225	Regular Right of Way	03/01/13	3 months	
M200	PA&ED	09/01/14	18 months	
M410	Right of Way Certification	09/01/15	12 months	
total time	M224 to M410		33 months	
	Structures, Design, OE		Time Given	
M040	Begin Project	07/01/12		
M221	Bridge Site Data Acct	04/01/13	9 months	
M275	General Plans	12/01/13	8 months	
M378	Draft Structures PS&E	03/15/15	15 months	
M377	P&E to DOE	04/15/15	30 days	
M380	HQ Project PS&E	06/15/15	17 weeks	
M460	Ready to List	01/03/16	20 weeks	
M470	Fund Allocation	02/15/16	6 weeks	
M480	HQ Advertise	03/15/16	4 weeks	
M490	Bid Opening	05/01/16	7 weeks	
M495	Award	06/01/16	4 weeks	
M500	Approve Contract	07/01/16	4 weeks	
Total OE time	M377 to M500		15 months	
	Start work	35 days	08/05/16	
Total Delivery time	M040 to M460		42 months	

15. ATTACHMENTS

- A. RW Data Sheet
- B. Preliminary Project Cost Summary
- C. MiniPEAR
- D. Structures Advance Planning Study
- E. Risk/Opportunity Log

**STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 RIGHT OF WAY DATA SHEET**

Date: August 26, 2011

02-Sis-263-PM 57.1
 E.A. 2E480
 Replace Klamath River Bridge



1. Right of Way Cost Estimate: Alternate No. 1- Includes taking house.

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	\$168,750	5%	\$201,961
B. Mitigation acquisition & credits	\$0		\$0
C. Project Development Permit Fees	\$0		\$0
Subtotal	\$168,750		\$201,961
D. Utility Relocation (State Share) (Owner's share: \$75,000)	\$0		\$0
E. Relocation Assistance (RAP)	\$10,000	5%	\$11,968
F. Clearance/Demolition	\$30,000	5%	\$35,904
H. Title & Escrow	\$2,500	5%	\$2,992
I. Total Estimated Right of Way Cost	\$211,250	Rounded	\$253,000
J. Construction Contract Work	\$0		

2. Current Date of Right of Way Certification May 1, 2015

3. Parcel Data:

Type	Dual/Appr	Utilities	RR Involvements
X 0		U4 - 1 1	None X
A 4		- 2 0	C&M Agrmt
B 0		- 3 0	Svc Contract
C 0	0	- 4 0	Easements
D 0	0	U5 - 7 1	Rights of Entry
		- 8 0	Clauses
Total 4		- 9 1	
Areas:			Misc. R/W Work
R/W: 0.98 Ac.			RAP Displ N/A
Excess: N/A	No. Excess Pcls: 0		Clear/Demo N/A
Mitigation: N/A			Const Permits N/A
			Condemnation 0
			USA Involvement Yes

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY DATA SHEET

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.).

 Alt 1 requires small acquisitions from 3 large holding properties owned by BLM and private owners. These parcels are vacant. There is also 1 full acquisition of 0.4 acres improved with a single family residence. All four parcels are zoned Ag 2 B450 which in non-prime ag 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 _____

 Verifications will be required. Per conversation with Yolanda Mieling, PE, the AT&T aerial telephone facilities which cross under the Highway 263 bridge will need to be relocated. It appears that the AT&T facilities were placed under State Encroachment Permit. Therefore, all costs for a relocation should be at owner's expense. Based on current information the complete impact on AT&T facilities is unknown.

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 _____ X _____ No _____
 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 _____ No X

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?
 Environmental impacts were unknown at the time of this datasheet.

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 12 months after we receive

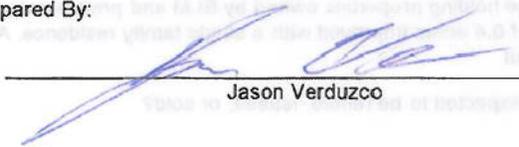
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY DATA SHEET

first appraisal maps, utility conflict maps, and the necessary environmental clearance and freeway agreements have been approved and obtained. Additionally a minimum of 12 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 No

Evaluation Prepared By:

Right of Way:

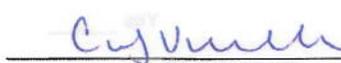

Jason Verduzco

Date

8/26/11

Reviewed By:

RW Project Coordinator:


Cindy Vincelli

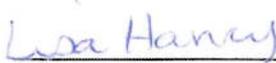
Date

8-26-11

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

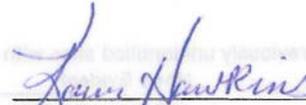
APPROVED:



LISA HARVEY,
Senior Right of Way Agent
Project Delivery Branch
Redding

Date

8-29-2011



Karen E. Hawkins,
North Region Right of Way Manager
Eureka/Redding

Date

8/30/11

District - Cty - Rte 02-SIS-263
PM PM57.1
E.A. 2E480K

PRELIMINARY COST ESTIMATE SUMMARY

Last Revision:
9/1/11 5:07 PM

Type of Estimate:
Program Code:
Description:
Proposed Improvement (Scope):

Project Scope Summary Report - Project Development Support

Operational Improvements
Replace Klamath River Bridge

ALTERNATIVE 1

Replace Klamath River Bridge

Roadway Items:	\$2,211,896
Structure Items:	<u>\$4,193,106</u>
Subtotal Construction:	\$6,405,002

Right of Way: \$211,250

Total Project Cost: (Rounded to 2 Significant Figures) \$6,600,000

Prepared by Project Engineer :


Yolanda Mieling

Project Manager:


Tim Huckabay

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I ROADWAY ITEMS

Section 1: Earthwork

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Roadway Excavation	8,000	yd ³	\$17	\$136,000	
Rock Excavation (Controlled Blasting)	10,000	yd ³	\$23	\$230,000	
Import Borrow	6,000	yd ³	\$34	\$204,000	
Clearing & Grubbing	1	LS	\$10,000	\$10,000	
Develop Water Supply	1	LS	\$5,000	\$5,000	
Total Earthwork:					\$585,000

Section 2: Roadway Structural Section

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Asphalt Concrete (Type A)	2,107	ton	\$110	\$231,805	
Class 2 Aggregate Base	1,222	yd ³	\$35	\$42,778	
AC Dike	400	ft	\$7	\$2,800	
Shoulder Backing	217	ton	\$50	\$10,866	
Place Shoulder Backing	13	Sta	\$244	\$3,050	
Total Roadway Structural Section:					\$291,299

Section 3: Drainage

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Drainage	1	LS	\$30,000	\$30,000	
Total Drainage Items:					\$30,000

Section 4: Specialty Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Remove AC Pavement	533	yd ²	\$7	\$3,947	
Detailed Site Investigation (Hazardous Waste)	1	LS	\$10,000	\$10,000	
Prepare SWPP	1	LS	\$5,000	\$5,000	
Water Pollution Control	1	LS	\$5,000	\$5,000	
Erosion Control	1	LS	\$2,000	\$2,000	
Temporary PCC Washout Facility	1	LS	\$2,000	\$2,000	
Environmental Mitigation	1	LS	\$30,000	\$30,000	
Temporary Construction Entrance	1	LS	\$3,000	\$3,000	
Total Specialty Items					\$60,947

I. ROADWAY ITEMS (CONTINUED)

Section 5: Traffic Items

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Remove MBGR	300	ft	\$8	\$2,400	
Metal Beam Guard Rail	500	ft	\$40	\$20,000	
Concrete Barrier (Type 736)	604	ft	\$150	\$90,600	
Tubular Bicycle Railing	604	ft	\$110	\$66,440	
Terminal System (Type SRT)	6	ft	\$3,500	\$21,000	
Lighting	1	LS	\$30,000	\$30,000	
TMP Public Information	1	LS	\$10,000	\$10,000	
Traffic Control	50	days	\$1,400	\$70,000	
Maintain Traffic Control	50	days	\$700	\$35,000	
Construction Area Signs	1	LS	\$2,500	\$2,500	
Remove Roadside Sign	3	ea	\$150.00	\$450	
P. Changeable Msg Sign	1	ea	\$6,000	\$6,000	
Remove Traffic Stripe	2,000	ft	\$2.50	\$5,000	
Thermoplastic Traffic Stripe	6,000	ft	\$2.00	\$12,000	
Total Traffic Items:					\$371,390

	SUBTOTAL ITEMS 1 - 5 :			\$1,338,635
Section 6, Minor Items: (subtotal of sections 1 - 5) x (5% - 10%) =	\$1,338,635	x	5%	
	Total Minor Items:			\$66,932
Section 7, Roadway Mobilization: (subtotal of sections 1 - 6) x (0% - 10%) =	\$1,405,567	x	10%	
	Total Roadway Mobilization:			\$140,557
Section 8, Roadway Additions:				
Supplementals (subtotal of sections 1 - 6) x (5% - 10%) =	\$1,405,567	x	10%	\$140,557
Construction Environmental Stormwater Management Plan	\$50,000	ls		\$50,000
Temporary Erosion Control & NPDES (subtotal of sections 1 - 5) x (1% - 7%) =	\$1,338,635	x	2%	\$26,773
Maintenance of Erosion Control & NPDES (subtotal of sections 1 - 5) x (1% - 10%) =	\$1,338,635	x	2%	\$26,773
(subtotal of Construction Environmental) =				\$103,545
Contingencies (subtotal of sections 1 - 6) x (20% - 30%) =	\$1,405,567	x	30%	\$421,670
	Total Roadway Additions:			\$665,772
	Total Roadway Items: (TOTAL OF SECTIONS 1 - 8)			\$2,211,896

II. STRUCTURES ITEMS:

Structure Name	Klamath River Bridge 02-0015			
Remove Existing Structures	12,528.0	ft ²	\$22	\$275,616
Structure Type				
Width (out to out)	varies	ft		
Span Length	303.00	ft		
Total Area	13,087	ft ²		
Footing Type (pile / spread)				
Cost Per Ft ² (incl. 10% mobilization and 40% contingency)				\$270
Approach slabs	640	yd3	\$600	\$384,000
Total Cost of Structure				\$3,533,490

Subtotal Structure Items:

Total Structures Items: \$4,193,106

III. Right of Way

Acquisition, including excess lands and damages to remainder(s).	\$	168,750
Utility Relocation	\$	-
Relocation Assistance (RAP)	\$	10,000
Clearance/Demolition	\$	30,000
Title and Escrow Fees	\$	2,500
CONSTRUCTION CONTRACT WORK	\$	-

Total Right of Way: \$211,250

Estimate Prepared by Yolanda Mieling Phone number (530) 225-4619 Date: 01-Sep-11

Mini-Preliminary Environmental Analysis Report

Project Information

District 02 County SIS Route 263 Post Mile 57.1 EA 02-2E480K

Project Title: Klamath River Bridge Replacement - Structure 02-015

Project Manager Tim Huckabay Phone # (530) 225-3466

Project Engineer Yolanda Meiling Phone # (530) 225-4619

Environmental Branch Chief Ed Espinoza Phone # (530) 225-3308

Project Description

Purpose and Need: Bridge 02-0015 was built in 1931 and has been experiencing severe deterioration for many years. Routine inspections report that delaminating reinforcement and spalling concrete are widespread. Many maintenance repairs over time have left the structure in service but structurally deficient. The structure is recommended for replacement and has been load restricted indefinitely. The purpose of this project is to replace the bridge. Also, the new structure will provide opportunity to improve highly undesirable geometrics at the junction of SR 96 and SR 263.

Description and Work: Bridge replacement for structure 02-015 over the Klamath River. Caltrans will realign the highway from the bridge structure to the junction of highways 263 & 96 improving intersection geometrics. Work may include removing old structure, intersection lighting and widening.

Anticipated Environmental Approval:

CEQA
 EIR

NEPA
 Environmental Assessment/FONSI

Summary Statement:

In order to identify environmental issues, constraints, costs and resource needs, a mini-PEAR (Preliminary Environmental Analysis Report) was prepared for this project. It is important to note that all technical studies will be deferred to the Capital phases of the project. In addition, during project development, proposed staging areas, disposal sites, utility relocation plans, and construction site access requirements will need to be identified and included as part of the project Environmental Study Limits (ESL). The cultural and biological studies for this report were limited to database searches and windshield surveys. Environmental resources and time were estimated to meet an aggressive schedule and reflect a worst case scenario. As project design becomes more refined to include avoiding and/or an effort to minimize project related environmental impacts, the resources, time and type of clearance document might be reduced. With regard to the conceptual plans being presented at this stage, it is anticipated that an Environmental Impact Report (EIR) will fulfill CEQA requirements and that an Environmental Assessment/FONSI would fulfill the NEPA requirement. Based on existing workload and available resources, it is estimated to take **4 years** to complete the environmental process. If possible,

Klamath River Bridge Replacement Project – Structure 02-015

Environmental Planning would like to receive the ESR for environmental clearance for this project, no later than February of a given year in order to complete any required surveys during the spring.

Special Considerations:

Biology: A literature search was conducted to investigate the potential presence of species and habitats of concern within the project vicinity. Sources included the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDDB), Hawkinsville, Iron Gate Reservoir, Hornbrook, Bogus Mountain, Little Shasta, Montague, Yreka, Badger Mountain, and Cottonwood 7.5 minute USGS quadrangles. A project at this location has the potential to affect many biologically sensitive species (i.e. Coho Salmon, Shortnose and Lost River Sucker, Northwestern Pond Turtle, and at least nine sensitive plant species). There is the potential for informal/formal consultation with both NOAA and the USF&WS and mitigation for project impacts may be extensive. Rare Plant surveys will need to be conducted.

Roosting Bats: The existing bridge structure has the potential of providing roosting habitat to bats. If field surveys determine the presence of bats and proposed construction activities will impact the roosting bats, mitigation measures will be implemented to avoid potential impacts.

Wetlands: Wetland delineation will be necessary to identify wetlands within the project area.

Disposal, Borrow, and Staging Areas: Borrow, disposal and staging sites have not been discussed or identified and it is not known at this time where they may be located. Any required areas for these mentioned activities, will require complete environmental evaluation as part of this project. All areas associated with these activities need to be included in the project ESL.

Archaeology: Bridges on SIS 263 (02 0011 thru 02 0015) have been evaluated by Caltrans and accepted by SHPO as eligible for the National Register. The specific bridge at SR 263 and SR 96 meets the eligible determination under both criteria A and C specific to National Register requirements for eligibility.

This means no evaluation is necessary, but mitigation of some sort will be required if alterations to historic attributes or removal are undertaken. Mitigation comes most often in the form of recordation in the Historic American Engineering Record (HAER).

The following are potential resources that might be impacted by this type of project:

- Eligible Bridge – will be adverse effect if taken out;
- Historical mining resources;
- Prehistoric resources;
- Historic roads; and
- Historic structures.

The following reports will be generated to address potential impacts to these resources:

- ASR with survey;
- Native American and Resource Agency consultation;
- HPSR;
- HRFR;
- Potential for Phase 2 Evaluation (for any archaeological resources that cannot be avoided);

Klamath River Bridge Replacement Project – Structure 02-015

Determination of Eligibility Report;
Finding of Effect Report (Adverse Finding);
MOA; and
Mitigation for:

Bridge (HAER recordation) and
Prehistoric and/or historic archaeological sites.

Section 4(f): Impacts to an eligible bridge for the National Register will require evaluation under 4(f) criteria. Part of the evaluation will make sure that all prudent and feasible alternatives were considered and evaluated leading up to a preferred alternative. The Department of the Interior must agree with the evaluation and choosing of a preferred alternative.

Hazardous Waste: An ISA will need to be completed during the '0' phase of the project.

Water Quality: The proposed project is not expected to have a significant impact on water quality. Water pollution resulting from construction related activities such as vegetation removal, trenching activities and petroleum products associated with heavy equipment should be minimized. A Water Pollution Control Plan must be submitted, and must meet standards and objectives to minimize water pollution impacts described in section 7-10.01 G of Caltrans' Specifications (Best Management Practices.)

Air Quality: An air quality report may be necessary.

Floodplain: A Floodplain Evaluation Report will need to be prepared by the Hydraulics Unit. This report is required at least two months prior to PA&ED.

Noise: A noise report will be necessary.

Hydrology: A hydrology study will be necessary.

Visual Resources: Wild and Scenic River consultation. View shed impacts analysis necessary.

Cumulative Impacts: Previous projects in conjunction with this proposed project need evaluation.

Permits:

This project will need the following permits/certifications: 1602 Streambed Alteration Permit from the California Department of Fish and Game, a 401 Water Quality Certification from the Regional Water Quality Control Board, and a 404 Nationwide Permit from the United States Army Corp of Engineers.

Mitigation:

Estimated mitigation costs will be developed as preliminary environmental analysis sheds light on potential values that might be impacted. Impacts to sensitive values will need to be quantified and cost estimates generated, based on current industry practices.

Disclaimer:

This report is not an environmental document. Due to resource constraints, only minimal information was provided from specialists. The above recommendations are based on the project description provided in this report. The discussion and conclusions provided by this mini-PEAR are approximate and are based on an in-house review of records to estimate the potential for probable effects. The purpose of this report

Klamath River Bridge Replacement Project – Structure 02-015

is to provide a preliminary level of environmental analysis to supplement the PSRPR. Changes in project scope, alternatives, or environmental law will require a reevaluation of this report.

Prepared by:

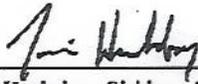


Ed Espinoza, Chief of, Environmental Management Redding, R1

Date:

7/22/11

Reviewed by:



Tim Huckabay, Siskiyou County Project Manager

Date:

7/22/11

SIS-263-PM 57.1

02-0000-0586K

Klamath River Bridge Replacement

RISK/OPPORTUNITY LOG (ATTACHMENT E)

Identification	Qualification / Quantification			Response Strategy		Control
	Probability	Impact	Exposure	Strategy	Risk Response Actions including Advantages & Disadvantages of the action	
(X) Refers to ESF Risk Management Tool Number	(High)	(Medium)	(Low)	(4)	(5)	(6)
	(P) % or H/W/L	(I) \$1000 or H/M/L	(E) (P) x (I) or P/I	+Accept +Minimize Probability +Minimize impact +Deflect +Avoid	Risk Response Actions including Advantages & Disadvantages of the action	Status Interval or Milestone Checks Date, Status, & Review Comments
Threat / Opportunity Event						
1 Two seasons in construction were assumed. It's anticipated there will be construction windows to avoid impacts to sensitive wildlife. This may dramatically increase the time in construction.	H	H	HH	Minimize Impact	If during PAED design the working days go beyond two seasons, the schedule will have to be adjusted after programming.	PE, PM After programming
2 It's assumed to take 1-year for ROW to acquire and cert after PAED. This assumes there is not too many parcels and all are willing owners (no condemnation). Schedule was prepared prior to ROW data sheet.	M	M	MM	Minimize Impact	If assumption is not correct, the schedule will have to be adjusted after programming.	PE, PM After programming
3 It is anticipated this project will require an EIR due to the 4 th requirements. Environmental anticipations it will take up to 4-years to complete PAED. There isn't enough time in the 4-year SHOPP programming cycle for 3 or 4 yrs to PAED and leaving sufficient time for design and ROW to RTL. Allowing enough time for ROW and design, the most time for PAED that can be accommodated in the 4-yr SHOPP cycle is about 2-yr. 2 yrs for PAED is what's used in the attached schedule.	H	H	HH	Minimize Impact	After working on the PAED for the first year after programming a better assessment can be made of the time needed for PAED and the schedule adjusted during the technical correction period in the FY prior to PAED. The alternative is to program this project as a long lead project and complete PAED prior to programming for construction. This would reduce the schedule risk.	PE, PM After programming

Klamath River Bridge Replacement		02-0000-0586K		SIS-263-PM 57.1		
RISK/OPPORTUNITY LOG (ATTACHMENT E)						
ID #	Threat / Opportunity Event	Qualification / Quantification			Response Strategy	Control
		(H) Probability	(I) Impact	(E) Exposure		
		(High) Medium (Low)			(5)	(6)
		(P) % or H/M/L	(I) \$1000 or H/M/L	(E) (P) x (I) or P/I	Risk Response Actions including Advantages & Disadvantages of the action	Status Interval or Milestone Checks
4	The schedule allows about 1 year to get permits. Since this is a sensitive river for endangered species, it's likely that mitigation for impacts will be required. Some permitting agencies (ie LSOOE) may require mitigation to be in place prior to granting the permit. There isn't time in the attached schedule to identify and implement mitigation prior to RTL	H	H	HH	Minimize impact	CE, PM
5	Do not have the resources to survey area to obtain accurate earthwork quantities.	H	H	HH	Minimize impact	CE
6	Insufficient resources to obtain landscape input for the project. This will lead to inaccurate contract time and cost estimate.	M	M	M/M	Minimize impact	PE
7	No geotechnical review was performed to propose rock cuts for clearing or initiation to determine design cut slope ratios and minimum catchment areas.	H	H	HH	Minimize impact	CE

SS-263-PM 57.1

02-0000-C586K

Klamath River Bridge Replacement

RISK/OPPORTUNITY LOG (ATTACHMENT E)									
ID #	Threat / Opportunity Event	Qualification / Quantification			Response Strategy	Control	Status or Interval or Milestone Checks	Responsibility (Risk Manager)	Date, Status, & Review Comments
		(P) Probability	(I) Impact	(E) Exposure					
	(X) Refers to ESI Risk Management Tool Number	(High)	(Medium)	(Low)	Strategy (4)	(6)			
	(1) & (2)	(P) % or H/M/L	(I) \$1000 or H/M/L	(E) (P) x (I) or P/I	+Accept -Minimize Probability -Minimize Impact +Deflect +Avoid	(5)			
8	The structural section information provided by Materials Unit is only a recommendation.	M	M	MM	Accept impact		PE, Made in joint personnel	P/Ts	
9	No PY resources for Landscape Architecture to review erosion control requirements for slopes. This will lead to inaccurate time and cost.	H	M	HH	Minimize Impact		PE	P/Ts	
10	A review of the Hydraulic history files was conducted by the Hydraulics Unit and found our existing culverts on route 93 have large quantities of sediment, also they are either drainage inlets with side openings or a headwall both of which can create well traps for errant vehicles.	M	F	MH	Minimize Impact		PE	P/Ts, PS&E reviews	

