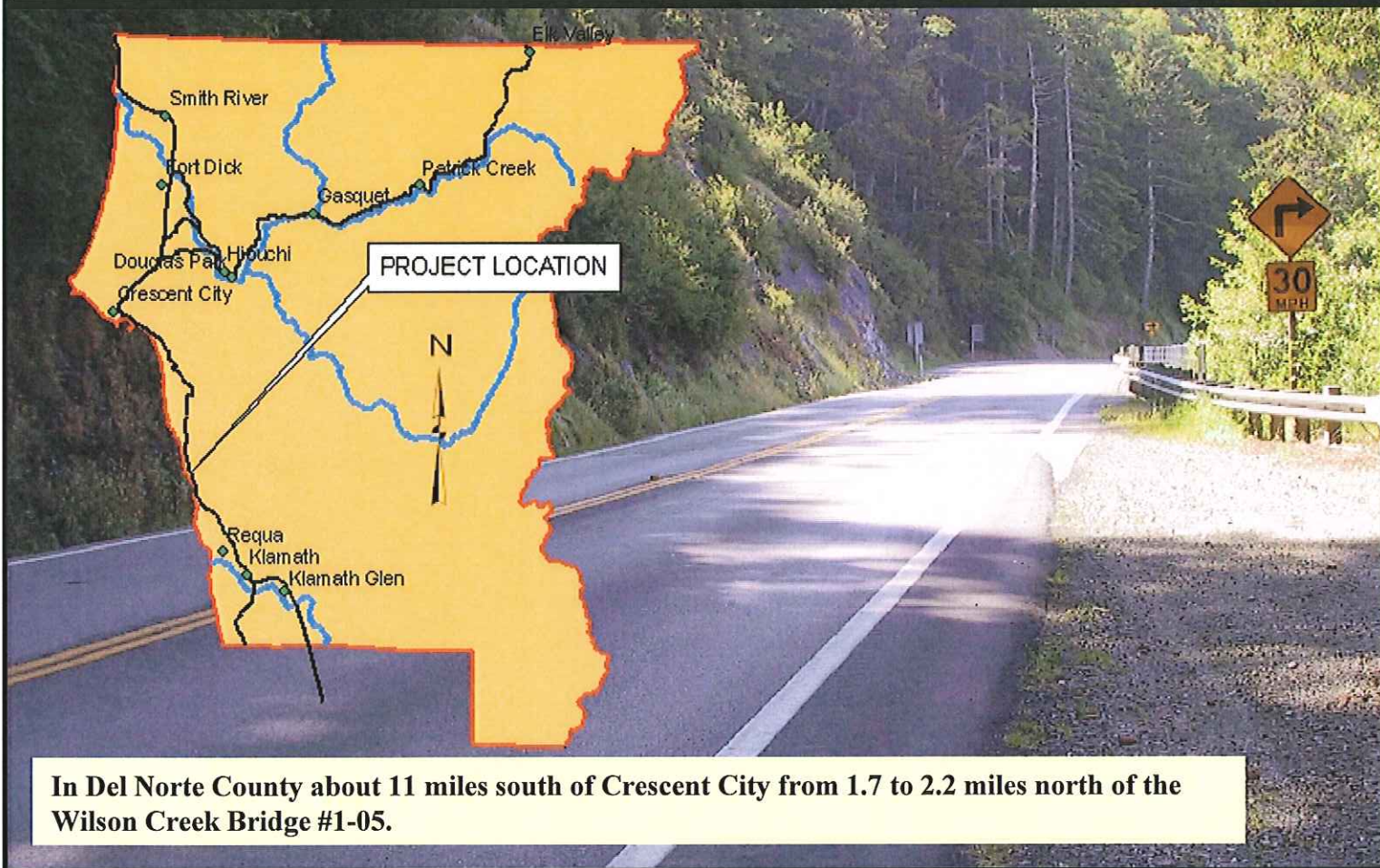




Project Study Report – Project Report (PSR/PR)

01-DN-101
PM 14.39/14.82
01216-48170K
201.010
June 2008

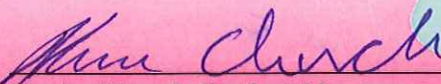


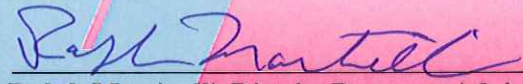
In Del Norte County about 11 miles south of Crescent City from 1.7 to 2.2 miles north of the Wilson Creek Bridge #1-05.

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


Lindy K. Lee, North Region Division Chief – Right of Way

APPROVAL RECOMMENDED:


Kevin Church, Project Manager


Ralph Martinelli, District Program Advisor

APPROVED:


Charles C. Fielder, District Director

6-11-08
Date

01 -DN - 101 – PM 14.39/14.82

201.010

June 2008

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


REGISTERED CIVIL ENGINEER

6/9/08
DATE



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1. INTRODUCTION

Brief Project Description:

The Wilson Creek Safety Project is located on Route 101 about 10 miles north of Klamath in Del Norte County and is located within the Coastal Zone boundary. The existing facility parallels the coastline within the Del Norte Redwoods State Park. This project proposes to place open graded friction course (OGFC), reconstruct a segment of structural section, widen a portion of the northbound shoulder, modify a drainage system adjacent to the widened shoulder, and reconstruct metal beam guard rail (MBGR) and terminal end sections.

See the Cost Estimate for specific work items included in this project.

Project Limits	
Dist., Co., Rte., PM	01, DN, 101, 14.39/14.82
Capital Costs:	\$1,410,000
Right of Way Costs:	\$10,000
Funding Source:	20.10.201.010
Number of Alternatives:	2 (including no build)
Recommended for Programming or Approved Alternative	Build Alternative
Type of Facility (conventional, expressway, freeway):	Conventional
Number of Structures:	0
Anticipated Environmental Determination/Document:	CE
Legal Description	In Del Norte County about 11 miles south of Crescent City from 1.7 to 2.2 miles north of the Wilson Creek Bridge #1-05.

2. RECOMMENDATION/PROPOSAL

It is recommended to proceed with the build alternative to the design phase. This project will be amended into the 2008 SHOPP.

3. BACKGROUND

A. Project History

A traffic safety investigation at this location was completed in response to a high number of collisions in the area. A review was made of the recorded collisions on the 0.5-mile segment. There were 48 collisions (0 Fatal, 24 Injury, 24 PDO) within a five-year period. The principal Primary Collision Factor on this segment of highway was “Speeding” (35 of 48). The majority of the collisions were a “Hit Object” type of collision (34 of 48). There was a pattern of “Hit Object” collisions at and immediately surrounding PM 14.65 NB (See Attachment J). The majority of collisions occurred during daylight (44 of 48) and on a wet road surface (45 of 48). The actual total collision rate for this segment is 11.06 collisions per million vehicle miles (COL/MVM), which is over 6 times greater than the statewide average rate of 1.73 COL/MVM for similar roadways.

B. Existing Facility

The existing highway facility is a two-lane conventional highway with 12-foot lanes and shoulders that vary from less than 1 foot to 5.8 feet. The existing alignment parallels the coastline and is curvilinear with most of the curves within the project limits with radii less than the mandatory standard. The horizontal curve radii range from approximately 300 feet to 2400 feet. The posted speed limit is 55 mph. The maximum comfortable speed ranges from 35 mph to 45 mph within the project limits. The maximum grade is 8.5% at the north end of the project. Soil stability is a factor of concern along this stretch of Route 101. Retaining walls are located along 0.27 miles of the 0.43-mile project.

4. PURPOSE AND NEED STATEMENT

Need:

The actual total collision rate for this segment is over 6 times greater than the statewide average rate for similar roadways. This project is needed to improve the condition of the roadway pavement and to address some of the nonstandard features that may be contributing to the higher than average collision rate.

Purpose:

The purpose of this project is to reduce the frequency and severity of wet weather collisions.

5. DEFICIENCIES

This safety project was proposed in response to the number of collisions occurring within this segment of Route 101. The primary causality for the northbound collisions appears to be alignment issues (broken back curve followed by an angle point in the alignment) in combination with substandard shoulder width and close proximity of a recessed drop inlet to the northbound edge of traveled way at PM 14.65.

- Collision Data

Collision Data Summary (date to date)						
Total	Fatal	Injury	PDO	MV	Wet	Dark
48	0	24	24	12	45	4

PDO = Property Damage Only, MV = Multiple Vehicle

Collision Rates* (date to date)					
Actual			State Average		
Fatal	F+I	Total	Fatal	F+I	Total
0	5.53	11.06	0.036	0.87	1.73

*Rates are expressed as # of accidents/million vehicle miles

The TASAS Table B Accident Rate Calculation sheet is included as Attachment J for reference.

- Current and Forecasted Traffic Data

The current and forecasted traffic data is listed in the table below. The data was provided in a memorandum dated October 31, 2007 from the office of Travel Forecasting and Modeling.

	<u>Annual ADT</u>	<u>Peak Hour</u>
Base Year 2006	4,900	730
Year 2008	5,100	760
Year 2018	6,080	910
Year 2028	7,060	1,050
20-Year Directional Percentage		60 %
20-Year Truck Percentage		8.0 %
10-Year Traffic Index		9.0
20-Year Traffic Index		10.0

6. CORRIDOR AND SYSTEM COORDINATION

In the Route Concept Report for the Route 101 Corridor, the segment of Route 101 from PM 14.39 to 14.82 is classified as a Principal Arterial. This project is within the limits of one of two segments of Route 101 in District 1 that were identified in the Route Concept Report to remain as a two-lane conventional highway.

Future projects planned for the general area of this proposed project are listed in the following table:

Project Location	EA	Project Description	Fiscal Year of Construction
DN-101-PM 14.8/15.6	01-32470	Construct Retaining Walls	08/09
DN-101-PM 4.4/9.4	01-3634V	Roadway Rehab, Grade Raise and Bridge Rail Upgrade	10/11

7. ALTERNATIVES

One build alternative, Alternative 1, and the no build alternative were studied:

Alternative 1 – OGFC and Reconstruct Structural Section

This alternative includes placement of open graded friction course (OGFC), reconstruction of a segment of structural section, widening of a portion of the northbound shoulder, re-striping lanes, construction of vegetation control-concrete pavement, modifying a drainage system, resetting roadside signs, installation of imported material (shoulder backing), and reconstructing metal beam guard rail (MBGR) and terminal end sections.

Reconstruction of the structural section will occur from PM 14.68 to 14.82. The substandard superelevation rates and transitions within this segment will be improved. Additionally, the substandard maximum grade (8.5 percent) within these limits will be decreased to meet the standard for the terrain (7 percent).

The northbound shoulder widening is located between PM 14.65 to 14.7. The shoulder widening and re-striping at this location will address the alignment issues in combination with substandard shoulder width and close proximity of the recessed drop inlet to the northbound edge of traveled way at PM 14.65.

The Headquarters Office of Geometricians was consulted for this project.

Mandatory Design Exceptions were approved for minimum curve radius, lane and shoulder widths, vertical and horizontal sight distance, superelevation rates, and minimum horizontal clearances. Advisory Design Exceptions include superelevation transitions, alignment consistency, and minimum vertical curve length. See Attachment K, the signed fact sheets for the Mandatory and Advisory Exceptions for this project.

No Build – Do Nothing

This alternative leaves the existing facility in place and as a result, collisions will not likely be reduced. Since this alternative does not meet the project “Need and Purpose,” it is not recommended.

The preferred alternative is Alternative 1.

8. CONSIDERATIONS REQUIRING DISCUSSION

A. Landscaping

This section of DN 101 is part of the historic Redwood Highway designed by landscape architect Frederick Law Olmsted Jr. Preserving the visual quality within the project limits is a requirement for this project. A Visual Impact Assessment (VIA) will be prepared by a landscape architect to make recommendations to minimize potential impacts to the visual environment.

B. Hazardous Material/Waste

An Initial Site Assessment (ISA) Investigation was prepared for this project. There are minor hazardous waste issues related to the removal of treated wood posts during guardrail reconstruction. The Treated Wood Waste from the guardrail reconstruction must be reused on the project, provided to maintenance for recycling, or disposed of at an appropriately permitted landfill. See Attachment F.

C. Air Quality Conformity

This proposed project does not fall within an area currently subject to the Transportation Conformity requirements set up under the Federal Clean Air Act.

D. Title VI Considerations

This proposed project will not adversely impact low mobility and minority groups.

9. OTHER CONSIDERATIONS AS APPROPRIATE

A. Transportation Management Plan

A Transportation Management Plan (TMP) Data Sheet has been prepared for this project. Significant traffic impacts are not anticipated provided the recommendations are followed.

It is anticipated that most of the work can be accomplished with shoulder closures and one-lane, one-way traffic control. The estimated number of working days for this project is 40 days. Maximum delay due to traffic control is expected to be 15 minutes. Bicycles are to be accommodated through the work zone. Bike queue times shall not be longer than 10 minutes. Construction Zone Enhanced Enforcement Program (COZEEP) is recommend for this project based on risk factors associated with this project. The TMP Data Sheet is included as Attachment I.

B. Storm Water Management

A Storm Water Data Report (SWDR) was prepared following Caltrans' established guidelines. The project area sheet-flows or drains to unnamed channels discharging to the Pacific Ocean. This reach of the Pacific Coast is within one of the Areas of Special Biological Significance (ASBS) established by the State Water Resources Control Board (SWRCB). The project will require a Water Pollution Control Program (WPCP) be prepared because the total disturbed area is less than 1 acre. The WPCP should include temporary construction Best Management Practices (BMPs) as a means of controlling storm water runoff that may occur during construction activities. The SWDR is included as Attachment L.

C. Landscape Architecture

A Landscape Architecture Assessment Sheet (LAAS) was not required for this project. Due to the minor nature of the soil disturbances, Landscape Architecture indicated that when the project is complete, the highway will be in visually better shape than it is now. Landscape Architecture recommended acid etching of the metal beam guardrail (MBGR). This segment of DN 101 is part of the historic Redwood Highway, designed by landscape architect Frederick Law Olmsted Jr. Preserving the visual quality within the project limits is a requirement for this project.

D. Project Risk Management Plan

A project Risk Management Plan has been completed in compliance with the North Region Project Management Directive for Project Risk Management. The plan can be found as Attachment M.

10. ENVIRONMENTAL DETERMINATION/DOCUMENT

The project is Statutorily Exempt from CEQA, Categorical Exempt, and Categorical Excluded under NEPA. Measures will be incorporated into the Design and Construction of the project that will avoid possible impacts to the environment. See Environmental Document, Attachment E.

11. FUNDING

See Programming Sheet, Attachment N.

12. SCHEDULE

HQ Milestones	Delivery Date (Month, Day, Year)
Circulate DED	06/01/2008
PA & ED	06/01/2008
Project PS&E	04/01/2009
Right of Way Certification	07/01/2009
Ready to List	07/15/2009
Approve Contract	08/01/2009
Contract Acceptance	10/01/2010

13. FHWA COORDINATION

No FHWA action required for this project.

14. PROJECT PERSONNEL

<u>Name</u>	<u>Title</u>	<u>Telephone</u>
Valency Langtry	Project Engineer	707-445-5208
Kevin Church	Project Manager	707-445-6440
Ilene Poindexter	Chief, Advance Planning	707-441-3969
Ralph Martinelli	Chief, Traffic Safety	707-445-6376
Troy Arseneau	Chief, Traffic Operations	707-445-6377
Melinda Molnar	Chief, Environmental Planning	707-445-6627
Steve Grantham	Environmental Coordinator	707-445-7815
Dave McCanless	Supervising Right of Way Agent	707-445-6424

15. PROJECT REVIEWS

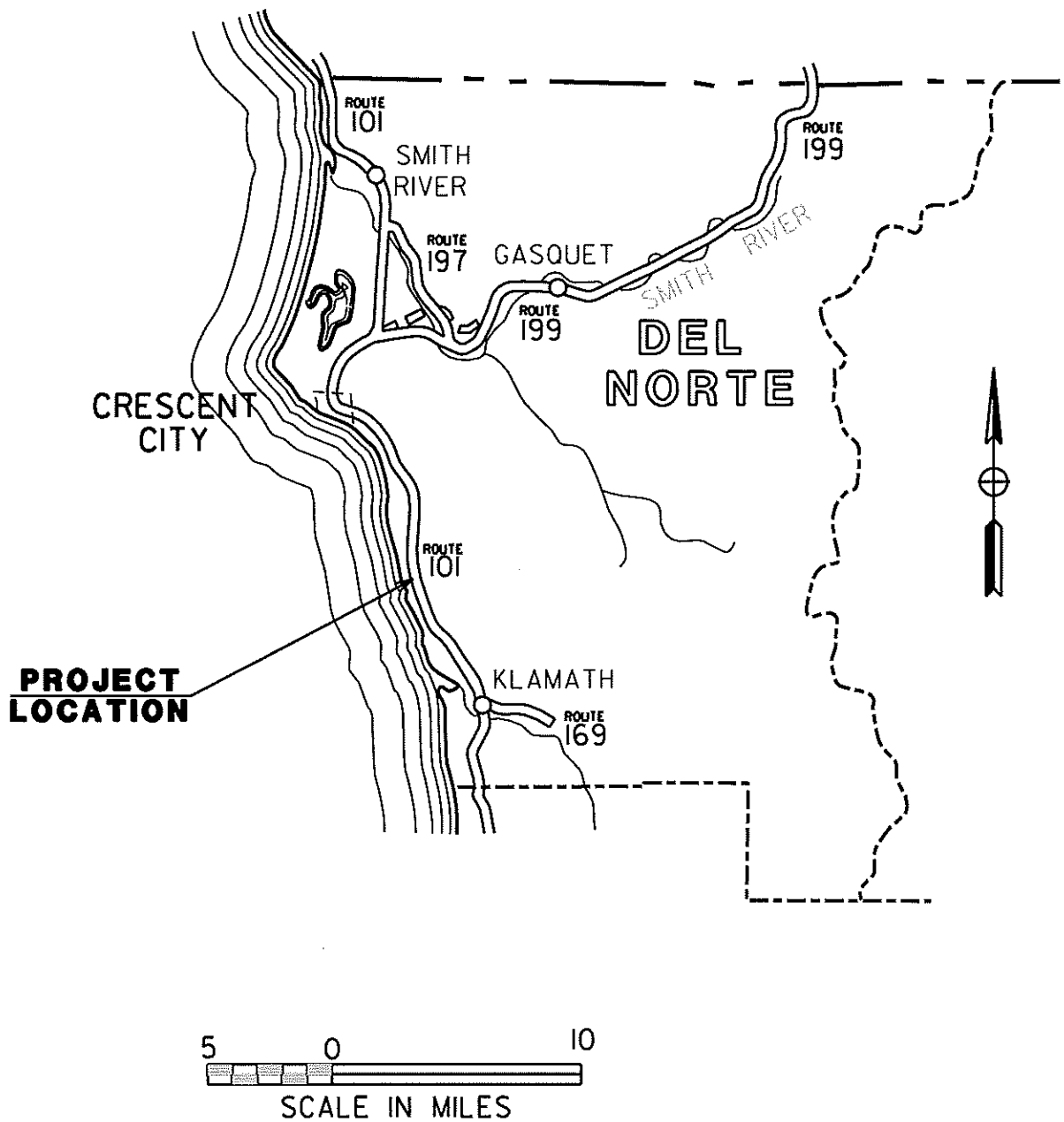
Field Review	<u>Valency Langtry, Ilene Poindexter, Heidi Quintrell, Deborah Harmon, Chris Holm</u>	Date	<u>5-23-07</u>
District Safety Review	<u>Ralph Martinelli</u>	Date	<u>2-5-08</u>
HQ Design Coordinator/Reviewer	<u>Heidi Sykes</u>	Date	<u>3-10-08</u>
North Region Design	<u>Dennis McBride</u>	Date	<u>Draft Circulation</u>
North Region Constructability Review	<u>Michael Lewis</u>	Date	<u>Draft Circulation</u>
HQ SHOPP Program Advisor	<u>Shaila Chowdhury</u>	Date	<u>Draft Circulation</u>

16. ATTACHMENTS:

- A Project Location Map (1)
- B Typical Sections (1)
- C Layouts (2)
- D Cost Estimate (4)
- E Categorical Exemption/Categorical Exclusion (CE/CE) (3)
- F Initial Site Assessment (ISA) (2)
- G Right of Way Data Sheet (5)
- H Preliminary Materials Recommendation (9)
- I Transportation Management Plan (TMP) (4)
- J TASAS (3)
- K Advisory and Design Exception Fact Sheets (16)
- L Storm Water Data Report (5)
- M Risk Management Plan (3)
- N Programming Sheet (1)

ATTACHMENT A

PROJECT LOCATION MAP



LOCATION MAP

01-DN-101-PM 14.39/14.82

ATTACHMENT B

TYPICAL SECTION

ATTACHMENT C

LAYOUTS

ATTACHMENT D

COST ESTIMATE

PR/PSR Cost Estimate

01-DN-101

PM 14.39/14.82

EA 01-48170K

Program Code 201.010 Safety Program

PROJECT DESCRIPTION:

Limits: In Del Norte County about 11 miles south on US 101 from 1.7 to 2.2 miles north of the Wilson Creek Bridge #1-05.

Proposed Improvement (Scope): Install OGFC, reconstruct MBGR, reconstruct structural section, modify a drainage system, and re-stripe lanes.

Alternative 1

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$1,410,000
TOTAL STRUCTURE ITEMS	\$0
SUBTOTAL CONSTRUCTION COSTS	\$1,410,000
TOTAL RIGHT OF WAY ITEMS	\$10,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$1,420,000

Reviewed by District Program Manager

Rap... 9/9/2008

Date

Approved by Project Manager

Mike Ch... 6/9/08

I. ROADWAY ITEMS

Item No.	Section 1 Earthwork	Quantity	Unit	Unit Price	Item Cost
160101	Clearing & Grubbing	1	LS	\$10,000	\$10,000
190101	Roadway Excavation	2,400	CY	\$40	\$96,000
198001	Imported Borrow	60	CY	\$136	\$8,160
198007	Imported Material (Shoulder Backing)	29	TON	\$145	\$4,205
Subtotal Earthwork					\$118,365

	Section 2 Pavement Structural Section	Quantity	Unit	Unit Price**	Item Cost
390120	Hot Mix Asphalt (Type A)	930	TON	\$117	\$108,810
260201	Aggregate Base (Class 2)	1,740	CY	\$70	\$121,800
390134	Hot Mix Asphalt (Open Graded)	720	TON	\$150	\$108,000
150771	Remove Asphalt Concrete Dike	160	LF	\$12	\$1,920
394073	Place Hot Mix Asphalt Dike (Type A)	200	LF	\$23	\$4,600
393003	Geosynthetic Pavement Interlayer	90	SQYD	\$13	\$1,170
391007	Paving Asphalt (Binder, geosynthetic interlayer)	0.10	TON	\$2,700	\$270
391005	Tack Coat	1.2	TON	\$1,400	\$1,680
153103	Cold Plane AC	5,700	SQYD	\$8	\$45,600
Subtotal Pavement Structural Section					\$393,850

	Section 3 Drainage	Quantity	Unit	Unit Price	Item Cost
665038	36" Corrugated Steel Pipe Inlet (0.138" thick)	7	LF	\$560	\$3,920
750001	Misc. Iron and Steel (frames and grates)	430	LB	\$4.15	\$1,785
665075	18" Corrugated Steel Pipe (0.138" thick)	20	LF	\$150	\$3,000
Subtotal Drainage					\$8,705

	Section 4 Specialty Items	Quantity	Unit	Unit Price	Item Cost
070012	Progress Schedule (Critical Path)	1	LS	\$6,000	\$6,000
074020	Construction Site Management	1	LS	\$8,000	\$8,000
074019	Prepare Storm Water Pollution Prevention Plan	1	LS	\$5,000	\$5,000
	Temporary BMP Items	1	LS	\$20,000	\$20,000
151572	Reconstruct MBGR	340	LF	\$52	\$17,680
832008	Metal Beam Guard Railing (Element) ((in specs. acid etched)	10	EA	\$225	\$2,250
839585	Alternative Flared Terminal System	4	EA	\$5,015	\$20,060
832070	Vegetation Control (Minor Concrete)	70	SQYD	\$65	\$4,550
203015	Erosion Control	1	LS	\$2,000	\$2,000
066666	Price Index Fluctuations (AC)	1	LS	\$99,000	\$99,000
066845	Incentive for Asphalt Concrete (QC/QA) (4% of HMAC)	1	LS	\$4,352	\$4,352
Subtotal Specialty Items					\$188,892

	Section 5 Traffic Items	Quantity	Unit	Unit Price	Item Cost
840504	Thermplastic Striping (4")	9,700	LF	\$0.95	\$9,215
850111	Pavement Marker (Type D-Retroreflective)	210	EA	\$10.00	\$2,100
128650	Portable Changeable Message Sign (PCMS)	4	EA	\$5,000	\$20,000
120200	Flashing Beacon (Portable)	2	EA	\$2,000	\$4,000
152316	Reset Roadside Sign - One Post	1	EA	\$475	\$475
152317	Reset Roadside Sign - Two Post	1	EA	\$580	\$580
	24-Hour Flagging	10	DAY	\$3,000	\$30,000
120090	Construction Area Signs	1	LS	\$4,000	\$4,000
Subtotal Traffic Items					\$70,370

Traffic Additions (Added in "TOTAL SECTIONS 1 thru 5)					
	Traffic Control System	1	LS	(6% Item Subtotal)	\$46,900
	Maintain Traffic	1	LS	(7% Item Subtotal)	\$54,700

SUBTOTAL \$780,182

TOTAL SECTIONS 1 thru 5	\$881,782
--------------------------------	------------------

Section 6 Minor Items	
\$881,782 x (5%) = (Subtotal Sections 1 thru 5)	\$44,089
TOTAL MINOR ITEMS	\$44,089

Section 7 Roadway Mobilization	
\$925,871 x (10%) = (Subtotal Sections 1 thru 6)	\$92,587
TOTAL ROADWAY MOBILIZATION	\$92,587

Section 8 Roadway Additions	Quantity	Unit	Unit Price	Item Cost
Supplemental Work				
			\$925,871 x (5%) = (Subtotal Sections 1 thru 6)	\$46,294
Contingencies				
			\$925,871 x (30%) =	\$277,761
		\$ Per Hour	Hours Per Day	Work Days
COZEEP setups @ \$100 per Hour Working 12 Hour Days		\$100	12	40
COZEEP setups @ \$200 per Hour Working 12 Hour Nights		\$200	12	5
	100000			
Construction Office			RE Office (\$2200/month for 55 days)	\$5,500
			(Subtotal Sections 1 thru 6)	\$925,871

TOTAL ROADWAY ADDITIONS (Sections 7 & 8) \$482,142

TOTAL ROADWAY ITEMS	\$1,409,000
----------------------------	--------------------

CALL \$1,410,000

II. STRUCTURES ITEMS

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SUBTOTAL STRUCTURES ITEMS \$0
(Sum of Total Cost for Structures)

Railroad Related Costs:	NA
-------------------------	----

SUBTOTAL RAILROAD ITEMS \$0

TOTAL STRUCTURES ITEMS **\$0**

III. RIGHT OF WAY ITEMS

A. Acquisition, including excess lands,	\$0
B. Mitigation acquisition & credits	\$10,000
C. Project Development Permit Fees	\$300
D. Utility Relocation (State share)	\$0
E. Relocation Assistance (RAP)	\$0
F. Clearance/Demolition	\$0
G. Title and Escrow Fees	\$0

TOTAL RIGHT OF WAY ITEMS **\$10,000**

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

F. Construction Contract Work

Brief Description of Work: Install signal and widen to four lanes through intersection.

Estimate Prepared By: Valency Langtry Phone # 707.445.5208

Estimate Checked By: Matt Smith Phone # 707.445.5207

ATTACHMENT E

**CATEGORICAL EXEMPTION/
CATEGORICAL EXCLUSION (CE/CE)**

CATEGORICAL EXEMPTION/ CATEGORICAL EXCLUSION DETERMINATION FORM

Revised September 6, 2007

1-Del Norte-101

14.39/14.82

481700

Not applicable

Dist.-Co.-Rte. (or Local Agency)

P./M/P.M.

E.A. (State project)

Federal-Aid Project No. (Local project)/ Proj. No.

PROJECT DESCRIPTION: (Briefly describe project, purpose, location, limits, right-of-way requirements, and activities)

Enter project description in this text box. Use Continuation Sheet, if necessary

The project would place open graded asphalt concrete (OGAC), reconstruct structural section, widen the northbound shoulder, re-stripe lanes, install pavement delineation, construct vegetation control concrete pavement, modify a drainage system, reset roadside signs, install imported material (shoulder backing), and reconstruct metal beam guard rail (MBGR) and terminal end sections. No disposal is expected. Staging is expected to be within the proposed Environmental Study Limits. Drainage at PM 14.65 consists of a 24" corrugated metal pipe culvert with an inlet in the ditch along the east side of the roadway. The drainage will be modified to accommodate a wider northbound shoulder. The inlet at this location will be brought up to (continued page 2)

CEQA COMPLIANCE (for State Projects only)

Based on an examination of this proposal, supporting information, and the following statements (See 14 CCR 15300 et seq.):

- If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped and officially adopted pursuant to law.
- There will not be a significant cumulative effect from this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource within an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse change in the significance of a historical resource.

CALTRANS CEQA DETERMINATION

Exempt by Statute. (PRC 21080[b]; 14 CCR 15260 et seq.)

Based on an examination of this proposal, supporting information, and the above statements, the project is:

Categorically Exempt. Class 2. (PRC 21084; 14 CCR 15300 et seq.)

Categorically Exempt. General Rule exemption. [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061[b][3])]

Melinda Molnar 5/1/08 Kevin Church 5/1/08
 Melinda Molnar, Senior Environmental Planner Date Kevin Church, Project Manager Date

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b) (<http://www.fhwa.dot.gov/hep/23cfr771.htm> - sec.771.117).

In non-attainment or maintenance areas for Federal air quality standards, the project is either exempt from all conformity requirements, or conformity analysis has been completed pursuant to 42 USC 7506(c) and 40 CFR 93.

CALTRANS NEPA DETERMINATION

Section 6004: The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding (MOU) dated June 7, 2007, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

- 23 CFR 771 activity (c)(___)
- 23 CFR 771 activity (d)(X)
- Activity ___ listed in the MOU between FHWA and the State

Section 6005: Based on an examination of this proposal and supporting information, the State has determined that the project is a CE under Section 6005 of 23 U.S.C. 327.

Melinda Molnar 5/1/08 Kevin Church 5/1/08
 Melinda Molnar, Senior Environmental Planner Date Kevin Church, Project Manager Date

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., air quality studies, documentation of conformity exemption, FHWA conformity determination if Section 6005 project; §106 commitments; § 4(f); § 7 results; Wetlands Finding; Floodplain Finding; additional studies; and design conditions). Revised September 6, 2007

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet

Project Description continued:

proposed pavement elevation. A second inlet will be placed 40 feet south of the existing inlet in the ditch; and a culvert will be installed to connect the two inlets.

This project is responsive to the above state average number of collisions on this particular segment of the U.S. 101. The majority of collisions occur because of roadway deficiencies that include: a broken back curve, followed by an angle point in the alignment in combination and substandard shoulder width and the close proximity of a recessed drop inlet to the northbound edge of traveled way at P.M. 14.64. The project consists of a reconstruction/reconfiguration of the existing structure and it will have substantially the same purpose and capacity as that replaced.

Purpose and Need. The purpose of this project is to reduce the frequency and severity of all collisions in the project limits, particularly wet conditions. The project is needed to improve the conditions on the roadway pavement and to address some of the nonstandard features that may be contributing the above average collision rate. The **Traffic Accident Surveillance and Analysis System (TASAS)** data indicated that over a five year period, there were 48 recorded collisions in the project limits. The collision rate for this segment is over six times greater than the statewide average for similar roadway.

Environmental Review and Commitments

Environmental studies reviewed all proposed project areas project elements as described in the project description. New right-of-way is not required, nor will utilities be affected or dewatering activities conducted.

The environmental commitments are considered part of the project description; they shall be incorporated into the construction contract as either a standard specification (SSP), non-standard special provision (NSSP) or included in the Order of Work section of the standard specifications (SSPS) for the construction contract. They shall also be incorporated into the project plans, where applicable.

- Materials and equipment will be stored at the pullout areas at either end of the project.
- The project will be accessed from the existing road bed, except when it is stored on one of the turnouts, and when the shoulders are being widened or the culvert extension and inlet are installed. Vegetation will not be cleared to provide access.
- The project will be constructed during the 2009 construction season.
- Night work is not anticipated nor approved.
- Construction staging will be conducted on existing pavement.
- Ambient noise levels will not be exceeded.

Biological Resources

Sensitive biological resources will not be adversely impacted. All project impacts will occur within previously disturbed ground surfaces. Listed plant and animal species will not be affected. Within the footprint of the project, there will be no impacts to riparian, or state and/or federal jurisdiction wetlands to include single parameter wetlands. Stream courses are not found in the project limits. Stormwater through the existing culvert, to be repaired, is the only water source.

Vegetation Removal: Vegetation removal is not required during implementation of the proposed project.

Migratory Bird Treaty Act: Breeding season generally occurs between February 1 and September 15. Vegetation will not be removed for this project, nor will night time work occur, and ambient noise levels will not be exceeded.

Cultural Resources

It was determined that this project has no potential to adversely affect known or reported historic properties. However, adhering to Caltrans' policy in Section 7-8 of the Environmental Handbook Volume II, if subsurface archaeological materials, (e.g. concentrations of flaked stone, or smooth/pecked stone, or historic era trash deposits (bottles, plate-ware, etc.) are unearthed during project construction, work must be halted in the area of the find(s). At the time of the discovery Caltrans archeologist shall be notified with the intent of authentication of the discovery. The Caltrans archeologist will travel to the job site at the earliest possible moment to evaluate the find and to provide recommendation(s). The archeologist assigned to this project is Timothy Keefe at 707-441-2022.

Section 4(f) of the Department of Transportation Act

Historic Landscape

The Highway 101 through the Del Norte Coast Redwoods State Park, "the Redwood Highway" was determined eligible August 20, 2004 for listing on the National Register of Historic Places under Criterion C, at the state level of significance, for its association with a master landscape designer, as an engineering achievement, and for its aesthetic qualities. The historic property is also an historical resource pursuant to the California Environmental Quality Act. Accordingly, the Redwood Highway is considered an historic site pursuant to Section 4(f) of the Department of Transportation Act.

The portion of the highway that runs through the parks was designed by Frederick Law Olmstead Jr. and the Olmstead Brothers

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet**

and constructed in the 1930s. The historic site extends from P.M. 13.3 to 22.58, distance of 9.3 miles.

Alternative Considerations

A. Realignment: To bring the segment of the route into standard for curvature would have significant impacts on right of way, substantial environmental impacts, and excessive costs. Right of way adjustments would require acquisition of Del Norte Redwoods State Park acreage, with attendant impacts to old growth redwood groves in the Park (P.M. 10.0 through 20.0). The Park's groves provided habitat for Marbled Murrelet and Northern Spotted Owl.

To meet the design standard for horizontal curvature, new retaining walls would be constructed, which would require significant cuts into the steep hillside and the above mentioned right of way acquisition. Costs for land acquisition, roadway, structures, would total in excess of \$13 million.

B. Alternative road surface: The existing surface is OGAC and is in good condition. The existing surface is not adequate for the intensity of rainfall that occurs at this location. Grooving the existing OGAC is not an option as grooving the OGAC could weaken the layer and cause raveling. What is needed is a more aggressive OGAC that has larger surface openings and sharper surfaces on the aggregate to improve traction during intense rain events and run-off.

C. No Project: The existing collision rate will eventually increase due to wearing of the OGAC surface and eventual loss of pores through sand and grit accumulation.

Application of the Criteria of Adverse Effect and *de minimis* finding

In accordance with stipulation X.B.1 of the Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation (January 2004), Caltrans determined there will be **No Adverse Effect** to historic properties.

Through delegation from the FHWA, Caltrans determined that continued use of the Redwood Highway is a *de minimis* impact on the historic site.

Environmental Permits

The following environmental permits may be required for completion of necessary drainage work.

California Coastal Development Permit shall be applied for through the Del Norte County. The permit if issued shall be a Coastal Grading Permit obtained from the County Engineer.

Right-of-Way

No additional permanent transportation right-of-way is required for the proposed project.

ATTACHMENT F

INITIAL SITE ASSESSMENT (ISA)

Memorandum

To: Valency Langtry, Project Engineer

Date: February 13, 2008

File No.: 01 - DN-101-PM 14.39/14.82
01-48170K
201.010 Safety Program

From: Steve Werner

North Region Office of Environmental Engineering—North

Subject: Initial Site Assessment

An Initial Site Assessment (ISA) for the above referenced "201.010 Safety Program" project was conducted at your request. Your request dated October 23, 2007, included construction detail and conceptual plan sheets dated November 24, 2007. It is our understanding that Right of Way will not be required for the project and excess material will be generated.

The ISA found that the project has minor hazardous waste issues related to the removal of treated wood posts during guardrail reconstruction. New regulations that came into effect in July 2007 from the Dept. of Toxic Substance Control dictate that Treated Wood Waste (TWW) from our projects must be reused on the project, provided to maintenance for recycling, or disposed of at an appropriately permitted landfill. This office can assist in acquiring Non Standard Special Provisions which should be included in the contract for the TWW handling and disposal.

Aerially Deposited Lead (ADL), although currently undocumented to be present at the project location, is likely present at low levels. Testing on the Route is scheduled to take place during the spring of 2008. If elevated levels of lead are found to exist on the Route in the vicinity of the work, a lead compliance plan for worker safety will also be necessary for this project. It is very unlikely that hazardous waste will be generated.

For the purposes of determining the appropriate environmental documents required for the project, the site should not be considered to be on the *Hazardous Waste and Substances Site List (Cortese List)*.

If there are any changes to the scope of the project, please send an email or letter describing the change(s) so that we may evaluate them for possible hazardous

Valency Langtry
February 13, 2008
Page 2

waste issues that could affect your project. Communications may be directed to me at (707) 445-6658.

cc: 1-SWerner

2-File

Email copies to: Steve Werner
Gary Banducci
Betsy Bareilles Mgt. Code 6-6
Environmental

SSW/ks

ATTACHMENT G

RIGHT OF WAY DATA SHEET

Memorandum

*Flex your power!
Be energy efficient!*

To: MS. ILENE POINDEXTER
Chief, Office of Advanced Planning
Department of Transportation, District 3

Attention Valency Langtry
Project Engineer

Date: January 7, 2008

File: DN-101-014.4/014.8
E.A. 48170K
Alternate No. N/A

From: DAVID M. McCANLESS,
Senior Right of Way Agent
Project Delivery, Eureka

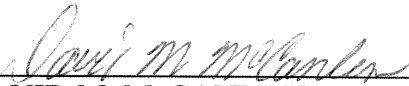
Install OGAC, shoulder
widening, reconstruct
structural section, modify
drainage, reconstruct MBGR.

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 December 17, 2007 , and the following assumptions and limiting conditions.

Environmental has determined they do not anticipate any mitigation parcels for this project but is subject to change. A Coastal Development Permit will be required. We also anticipate there will be a requirement to complete a revegetation program.

Right of Way Lead Time will require a minimum of 3 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 3 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 public image generally.



DAVID M. McCANLESS,
Senior Right of Way Agent
Project Delivery

Attachments:

Right of Way Data Sheet
Mitigation Information Sheet

cc: Kevin Church

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

REVISED



Date: December 28, 2007

DN-101-014.4/014.8
 E.A. 48170K
 Install OGAC, shoulder widening, reconstruct structural section, modify drainage, reconstruct MBGR.

1. Right of Way Cost Estimate:

	Current Value Future Use	Escalation Rate	Escalated Value
A. Total Acquisition Cost	\$0		\$0
B. Mitigation acquisition & credits	\$10,000	5%	\$10,086
C. Project Development Permit Fees	\$300	5%	\$303
Subtotal	\$10,300		\$10,388
D. Utility Relocation (State Share) (Owner's share: \$0)	\$0		\$0
E. Relocation Assistance (RAP)	\$0		\$0
F. Clearance/Demolition	\$0		\$0
H. Title & Escrow	\$0		\$0
I. Total Estimated Right of Way Cost	\$10,300	Rounded	\$10,400
J. Construction Contract Work	\$0		
2. Current Date of Right of Way Certification	March 1, 2008		

3. Parcel Data:

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

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.).

No right of way required.
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 _____
Utility relocations are not anticipated; however, utility verifications will be required.
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 _____
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. 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 3 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 3 months will be required after receiving the last appraisal map to Right of way for certification.

1. Name of Utility Companies Requiring Verification Only:

Verizon
Pacific Power & Light

2. Name of Utility Companies Requiring Relocations:

NONE

Number of JUA's or CUA's required for this project:
NONE

3. Additional information concerning utility involvements on this project:

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: \$ 0)

Utility Involvements

U4-1 _____
-2 _____
-3 _____
-4 _____

U5-7 2 _____
-8 _____
-9 _____

Prepared By:



Daniel Kaiser
Right of Way Utility Estimator

1/7/08

Date

1. Is mitigation required for the project?

As of 12/17/07, there is a possibility the need for mitigation parcels for this project are subject to change, as per Steven D. Grantham, Associate Environmental Planner, (707) 445-7815. A cost for revegetation has been included in this estimate.

2. What type of mitigation is needed for the project?

At this point we do not anticipate mitigation.

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

We will likely be required to secure a Coastal Development Permit (Del Norte County Planning). The cost of this permit is \$300.

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) If we are expected to revegetate, our biologist estimates costs to be from \$5,000 to \$10,000.

5. PMCS Input Information

Number of Acres/Credits 0

Estimated Cost \$10,000

Prepared By:

Nancy Hueske Nancy Hueske
Right of Way Mitigation Estimator

ATTACHMENT H

PRELIMINARY MATERIALS RECOMMENDATION

Memorandum

To: Ilene Poindexter
Division Chief,
Advance Planning

Date: December 19, 2007

File: 01-DN-101
PM 14.39/14.82
EA 01-48170K
Wilson Creek
210.010
Safety Program

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

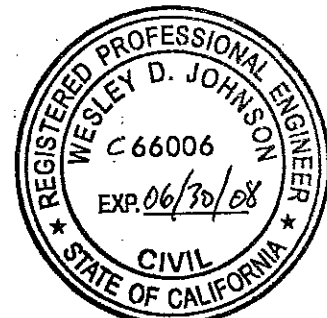
Wesley D. Johnson

Subject: Preliminary Materials Recommendation

In response to a your request dated October 23, 2007 for the location listed above, the project history files in the Eureka Materials Lab were reviewed for a determination of R-value (resistance to deformation) from previous work adjacent to the project area. Additionally, project history files were reviewed for culvert thickness recommendations in the near vicinity. Due to the response time requested, no field review or soil sampling was conducted. A review of several projects in the near vicinity revealed R-values ranging from a low of 6 to a high of 85. For the purposes of this report, an assumed R-value of 10 and a Traffic Index of 10.0 which was provided by the Office of Traffic Forecasting and Modeling was used for calculation of the structural section. Soil sampling and laboratory testing will be conducted to update this recommendation when this project begins the design phase.

Existing Structural Section

Based on our Structural Section Inventory, the existing roadway surface consists of a 0.08' layer of open graded asphalt concrete on top of a 0.17' layer of dense graded asphalt concrete placed in 1982



Wesley D. Johnson

by contract EA: 01-182204. Additionally, layers of asphalt concrete were placed at 0.08' thicknesses in 1955, 1960, and 1968 over the original 0.13' thick gravel layer.

New Structural Sections for Mainline & Shoulders:

Based on an assumed R-value of 10, and a 20 year traffic index of 10.0, the following structural section alternatives are recommended for mainline traffic and shoulders. Each alternative is structurally equivalent.

Alternative	<u>OGFC</u>	<u>HMA (Type A)</u>	<u>AB (Class 2)</u>	<u>AS (Class 2)</u>
1	0.15'	0.50'	0.85'	1.10'
2	0.15'	0.50'	1.80'	----
3	0.15'	1.25'	----	----

Notes:

- Imported borrow used to construct the embankment must meet a minimum R-value of 25 when placed within 4' 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.

Material Specifications

- Open Graded Friction Course (OGFC): Shall be 1 inch OGFC conforming to Section 39 of the Standard Specifications.
- Hot mix asphalt (HMA): Shall be Type A (HMA-A), conforming to Section 39 of the Standard Specifications. See Attachment "A" for grading size versus lift thickness recommendation.
- Asphalt Binder: Shall be PG 64-16 for HMA-A and PG 58-34PM for OGFC. The estimated percentage of asphalt to be added per dry weight of aggregate is 5.0% for HMA-A and 4.5% for OGFC. OGFC shall be treated with liquid anti-strip at a rate of 0.5% by mass of asphalt binder.
- Paint Binder (Tack Coat): Shall be either CRS2 rapid setting asphaltic emulsion, or PG 64-16 paving grade asphalt depending on the atmospheric temperature. At atmospheric temperatures above 64°F, paint binder (tack coat) shall be rapid setting asphaltic emulsion, CRS2. At atmospheric temperatures below

64°F, paint binder (tack coat) shall be paving grade asphalt. Rapid setting asphaltic emulsion, CRS2, shall conform to the provisions in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," and the provisions in Section 94, "Asphaltic Emulsions", of the Standard Specifications. Paving grade asphalt shall conform to the Special Provisions for PG 64-16.

- Asphalt Concrete Dike: Hot Mix Asphalt used in the construction of dikes shall be 3/8 inch, Type A (HMA-A), conforming to Section 39 of the Standard Specifications. The amount of asphalt binder used in asphalt concrete placed in dikes shall be increased one percent by mass of the aggregate over the amount of asphalt binder determined for use in asphalt concrete placed on the traveled way. Asphalt binder used in construction of dikes shall conform to the standard special provisions for PG 64-16. Please see Attachment "B" for a construction detail for modified dike installation when open graded asphalt concrete is placed.
- Aggregate Base (AB): Shall be Class 2, conforming to Section 26 of the Standard Specifications.
- 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/ft³.

Alternate Pipe Culvert (PM 14.65)

Alternative Pipe Culvert recommendations were based on historical soil and water pH and resistivity testing from an adjacent project (01-131601), at post mile 14.20. Alternate pipe culverts approved for a 50 year service life and based on this adjacent soil and water data are listed below. Soil and water sampling and laboratory testing will be conducted to update this recommendation when this project begins the design phase.

- 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 "C" or "D" for culvert installation details.

Steel pipe down-drains shall conform to Section 69, "Overside Drains" of the Standard Specifications. The minimum thickness of sheet metal used shall be 0.064" (16 gage). Based on historical adjacent soil and water samples, a galvanized steel thickness of 0.064" will give an estimated life span of approximately 24 years of service. Other thicknesses of galvanized, corrugated steel pipe (without treatment coatings) and the estimated design life to perforation are shown below.

<u>Thickness</u>	<u>Design Life</u>
0.052" (18 gage)	19 years
0.079" (14 gage)	30 years

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

Attachments

WJ: wj

CC: Valency Langtry
Kevin Church
Lab Files

Attachment A

01-DN-101 PM 14.39/14.82
01-48170K

Aggregate Size and Layer Thickness Hot Mix Asphalt (HMA) Types A & B

Use the following table to determine the grading:

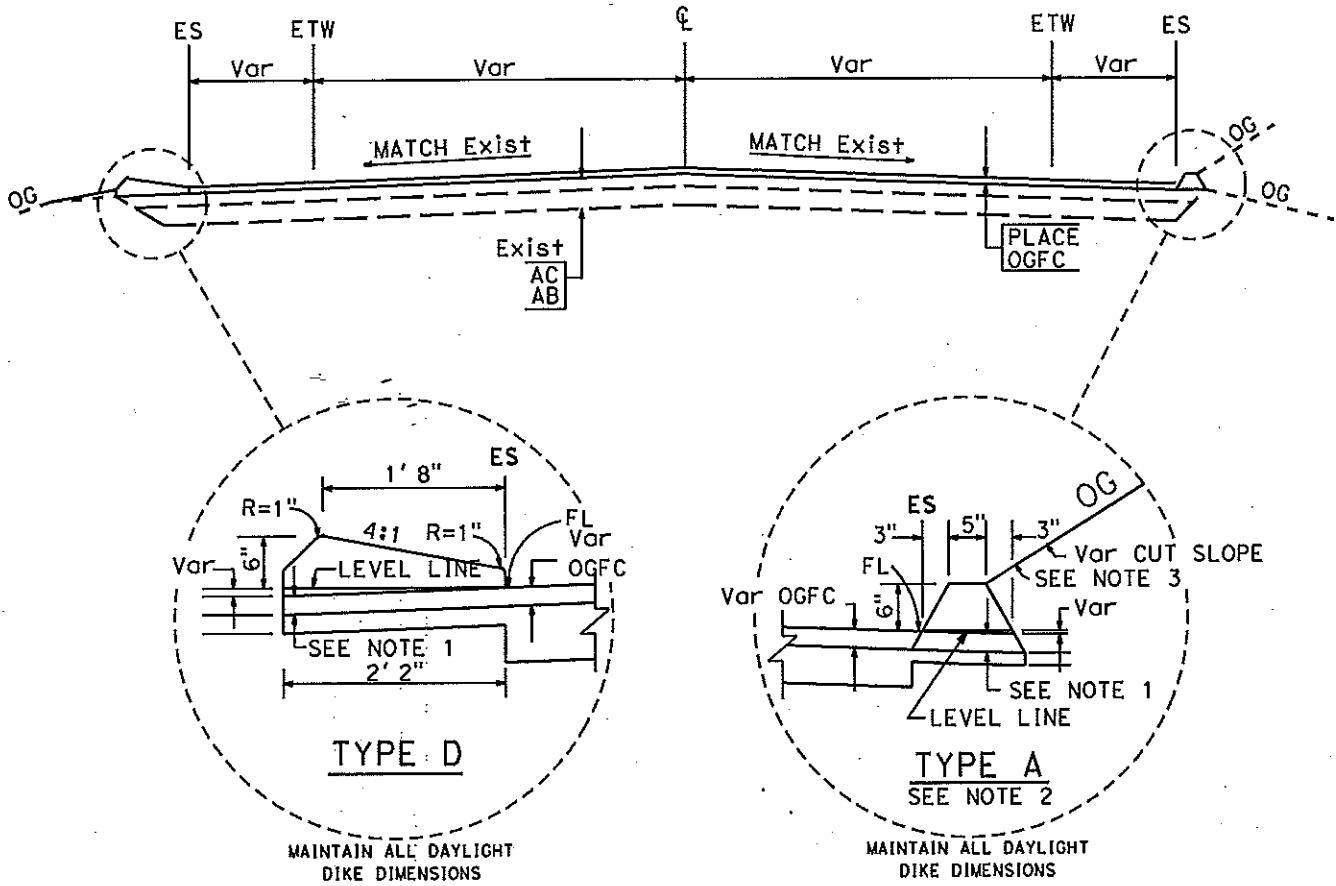
Lift Thickness Range	Grading
0.08 foot - 0.125 foot	3/8 inch
0.125 foot - 0.20 foot	1/2 inch
0.20 foot and above	3/4 inch

ATTACHMENT B

01_DN_101 PM 14.39/14.82

01-48170K

MODIFIED HMA DIKE



HOT MIX ASPHALT DIKE TYPICAL WHEN PLACED WITH OGFC

DIKE QUANTITIES

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

QUANTITIES BASED ON 5% CROSS SLOPE

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

NOTES:

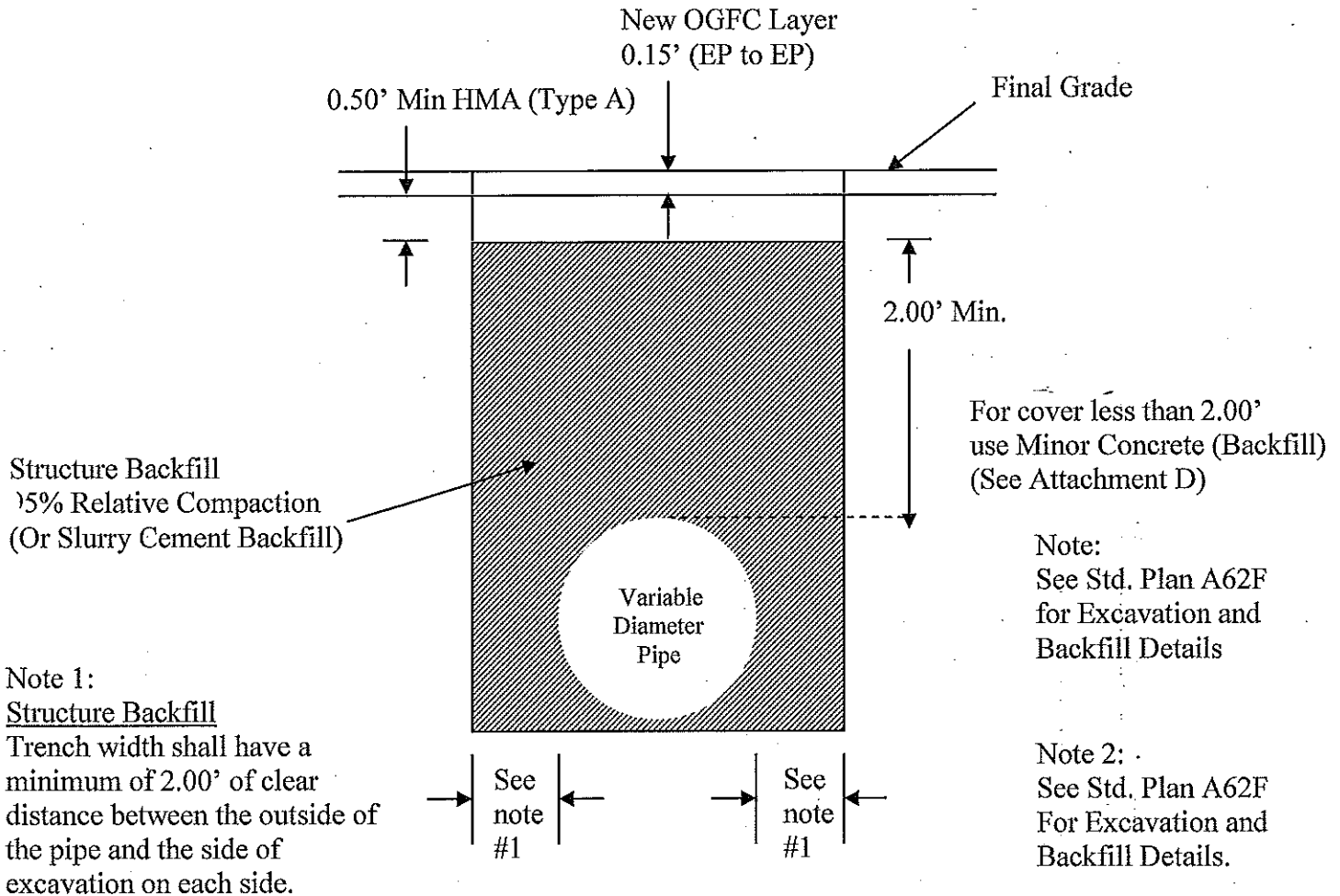
1. THE ADDITIONAL HEIGHT OF DIKE SHALL BE EQUIVALENT TO THE DEPTH OF OGFC.
2. TYPE A DIKE ONLY TO BE USED WHERE RESTRICTIVE SLOPE CONDITIONS DO NOT PROVIDE ENOUGH WIDTH TO USE TYPE D OR TYPE E DIKE.
3. FILL AND COMPACT WITH EXCAVATED MATERIAL TO TOP OF DIKE.

NO SCALE

Attachment C

Structure Backfill, or Slurry Cement Backfill

01-DN-101 PM 14.39/14.82
01-48170K



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.

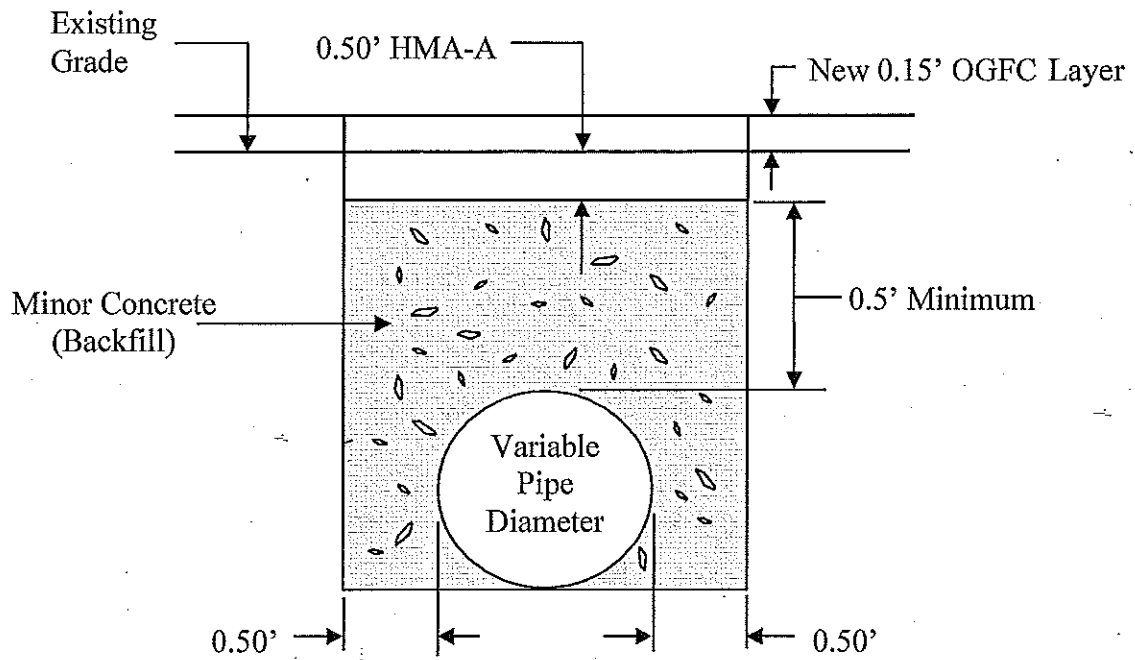
Slurry Cement Backfill
Trench width shall be a minimum of 0.50' beyond outside edge of pipe and the side of excavation on each side for pipe diameters up to and including 42", or 1.00' for pipes over 42" in diameter. See Standard Specifications 19-3.062

NO SCALE

Attachment D

01-48170K
01-DN-101 PM 14.39/14.82

Minor Concrete (Backfill)



NO SCALE

Wesley
Johnson/D03/Caltrans/CAGov
v
05/30/2008 03:41 PM

To Valency Langtry/D01/Caltrans/CAGov@DOT
cc Ilene Poindexter/D01/Caltrans/CAGov@DOT, Kevin Church/D03/Caltrans/CAGov@DOT, Michael Stapleton/D01/Caltrans/CAGov@DOT, Bridget
bcc
Subject Structural Section Revision, DN 101, PM 14.39/14.82, EA 01-48170K, Wilson Creek

Greetings Valency:

Per our discussion, I am sending you a revised structural section estimate based on a further review of existing conditions and using an assumed "R" value of 25, which is less conservative than previously used for the December 19, 2007 Materials Recommendation. If exact dimensions of the existing conditions at your location of reconstruction are required, please request coring services from this Lab through Michael Stapleton. Coring services generally are not recommended for "K" phase projects; however, exceptions are possible if events warrant. See the District 1 Materials Laboratory web site for instructions. Additionally, "R" value sampling and testing will be conducted in the "0" or "1" phase when requested and this data could possibly lead to less thickness of structural material required. Please change your structural section accordingly.

Using "R" value of 25 and a 20 year Traffic Index of 10.0, the following alternatives are recommended.

<u>Alternative</u>	<u>OGFC</u>	<u>HMA-A</u>	<u>AB (Class 2)</u>	<u>AS (Class 2)</u>
1	0.15'	0.50'	0.85'	0.60'
2	0.15'	0.50'	1.35'	----
3	0.15'	1.10'	----	----

Further reductions in structural section thickness could be achieved using subgrade enhancement fabric; however, cost may exceed benefit for this short project and therefore are not considered in the above recommendation. WDJ

ATTACHMENT I

TRANSPORTATION MANAGEMENT PLAN (TMP)

TRANSPORTATION MANAGEMENT PLAN UPDATE

To: Valency Langtry
Project Engineer

Date: May 23, 2008
File: DN-101 PM 14.39/14.82
EA: 01-48170K
Wilson Creek OGAC

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



Project Information

Location: In Del Norte County about 10 miles north of Klamath from 1.7 miles north of Wilson Creek Bridge to 2.2 miles north of Wilson Creek Bridge.

Type of Work: Place OGAC, reconstruct structural section, widen NB shoulder, re-stripe lanes, install pavement delineation, construct vegetation control-concrete pavement, modify drainage system, reset roadside signs, install imported material, and reconstruct MBGR and terminal end sections.

Anticipated Traffic Control: One-way reversible traffic control. Shoulder closure.

Estimated Maximum Delay: 15 minutes.

Peak Hour Traffic Volumes: 815 vph.

Lane Requirement Charts Included: No.

Number of Working Days: 40 days.

Next Major Milestone and Date: PA&ED – June/2008

RTL Date: May/2009

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.

Hours of Work

- Except during the use of 24 hour traffic control, 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 traveled way 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.
- 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 one paved traffic lane, not less than 12 ft wide with 2 ft contiguous paved shoulder, shall be open for use by public traffic.
 - The maximum length of one-way traffic control closure is 3000 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.
- In the event the traveled way is restricted to less than 14 ft in width during one-way reversible traffic control and the maximum closure length is less than or equal to 1000 ft, bicycles shall be routed to share a motor vehicle lane.
- In the event the traveled way is restricted to less than 14 ft in width during one-way reversible traffic control and the closure length is between 1000 and 3000 ft, bicycles shall be ferried across the work zone using a pilot vehicle. Signage shall be used at each end of the construction area to alert bicyclists of the requirement to obtain instruction from designated personnel handling the pilot vehicle bicycle transport. Bike queue times shall not be longer than 10 minutes.
- “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.
- This section of Highway 101 is part of the Pacific Coast Bike Route. Bicycles shall be accommodated through the work zone.
- COZEEP is recommended for this project based on risk factors associated with this project and the COZEEP Guidelines (CA DOT Construction Manual

Section 2-215A). The associated risk factors include: lane closure with one-way traffic control, workers exposed to traffic, night construction activities, speed management, and significant truck volumes.

- The following project is anticipated to have closures within this project's work limits and shall be included in SSP 07-850: *EA 01-32470*.
- The following projects are anticipated to have closures near this project and shall be used to assess cumulative corridor delay: *EA 01-3634V and EA 01-32470*.

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.

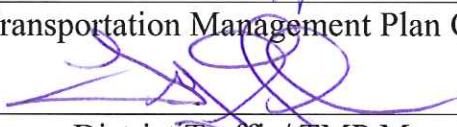
Approval

Approved by:



Transportation Management Plan Coordinator

Approved by:



District Traffic/ TMP Manager

TAA/pwh-jnl

- CC: 1)TAArseneau, 2)JCandalot
1)RMMartinelli, 2) MABrady, 3)MGDavenport
IPointexter
KChurch
HLQuintrell
RLingford
AJones

ATTACHMENT J

TASAS

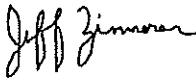
Memorandum

*Flex your power!
Be energy efficient!*

To: VALENCY LANGTRY
District 01, Advance Planning

Date: November 1, 2007

File: DN 101 PM 14.35-14.85
01-48170
Wilson Creek

From: JEFF ZIMMERER 
District 01, Traffic Safety Office

Subject: TASAS Table B Update & Collision Analysis

A current 5-year TASAS Table B analysis was completed for the requested segment on Route 101. The TASAS Table B summary sheet is attached and a brief summary is given below.

DN 101 (PM 14.35/14.85)

A review was made of the recorded collisions on the 0.5-mile segment. There were 48 collisions (0 Fatal, 24 Injury, 24 PDO) between April 1, 2002 and March 31, 2007. The actual collision rate for this segment is 11.06 collisions per million vehicle miles (COL/MVM), which is greater than the statewide average rate of 1.73 COL/MVM for similar roadways. The principal Primary Collision Factor on this segment of highway was "Speeding" (35 of 48). The majority of the collisions were a "Hit Object" type of collision (34 of 48). There was a pattern of "Hit Object" collisions at and immediately surrounding PM 14.65 NB (See collision diagram). The majority of collisions occurred during daylight (44 of 48) and on a wet road surface (45 of 48).

District 01 Traffic Safety concurs with the proposed project for DN 101. The open graded asphalt concrete (OGAC) overlay and the shoulder widening should reduce the number of collision by increasing the roadway friction and total roadway width.

If you have any questions please contact me at 707-445-6443.

Attachments: TASAS Table B Summary and Collision Diagram

cc: 1) MLSuchanek
2) RMMartinelli
3) MABrady
4) JJZimmerer
5) file

Location Description	Rate Group (RUS)	No. of Accidents / Significance	No. of Accidents / Significance			Pers Kid Inj	ADT Main X-St	Total MV+ or MVM	Actual		Accident Rates		Average Fat F+I	Tot	Fat F+I	Tot
			Tot	Fat	Inj				F+I	Fat	F+I					
01 DN 101 014.350 - 01 DN 101 014.849	.500 MI H 05	48	0	24	24	0	4.8	4.34	5.53	0.000	11.06	0.036	11.06	.87	1.73	
0001-0001 2002-04-01 2007-03-31	R	H99	H99	H99	H99	35										
	60 mo.															

Accident Rates expressed as: # of accidents / Million vehicle miles

* denotes that Million Vehicles (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

ATTACHMENT K

ADVISORY AND DESIGN EXCEPTION FACT SHEETS

DIST-CO-RTE PM/PM: 01-DN-101-14.39/14.82
EA (OR PERMIT #): 01-48170K
PROJECT COST: \$1,210,000
SOURCE FUND: 201.010

Fact Sheet Exception(s) To Mandatory Design Standard(s)



Prepared by:

Valency M. Langtry
Registered Civil Engineer

3/13/08 707-445-5208
Date Telephone

Submitted by:

Ilene Poindexter
Ilene Poindexter, Advance Planning
Branch Chief

3/14/08 707-441-3969
Date Telephone

Recommended
for Approval:

Kevin Church
Kevin Church, Project Manager

3/17/08 707-445-6440
Date Telephone

Concurrence by:

John Bulinski
For John Bulinski, Chief
Office of Design North

3/20/08 445-6602
Date Telephone

Approved by:

John C. Steele
John C. Steele, Design Coordinator

5/30/08 _____
Date Telephone

1. PROPOSED PROJECT

A. Project Description:

District 1 Advance Planning is currently preparing Project Report/Project Study Report (PR/PSR) for this 201.010 Safety Project. The project proposes to place open graded friction course (OGFC), reconstruct a segment of structural section, and widen a segment of the northbound shoulder. The purpose and need of this project is to reduce the frequency and severity of all collisions within the project limits, particularly wet collisions. The geographic location for this project is on US 101 in Del Norte County approximately 1.8 miles north of Wilson Creek and just south of Last Chance Grade (from PM 14.39 to PM 14.82).

B. Existing Highway:

The section of US 101 within the project limits is two-lane conventional and located within the Coastal Zone boundary. The existing alignment parallels the coastline and is curvilinear with most of the curves within the project limits with radii less than the mandatory standard. Soil stability is a factor for concern along this stretch of US 101; and existing retaining walls are located along 0.27 miles of the 0.43-mile project. The general highway characteristics within the project limits include lane widths varying from 11 to 13.5 feet wide, shoulders from a little less than 1 foot to 5.8 feet. The horizontal curve radii range from approximately 300 feet to 2400 feet. The design speed of the facility, based on mountainous terrain, is 50 mph. The posted speed limit is 55 mph. The maximum comfortable speed ranges from 35 mph to 45 mph for six of the eight curves within the project limits. The grade varies from approximately 1.5% toward the south end of the project to a maximum of 8.5% at the north end. The superelevation at curves varies from 4 to 12 percent, with the majority of the curves below the design standard for the particular radius and rates of change too high at the north end of the project.

The adjacent highway segments have similar nonstandard features regarding horizontal curvature, lane and shoulder width, and superelevation. The segment of roadway adjacent to the project, the Wilson Creek Bluffs, PM 15.0 to 15.6, have been identified as the number 1 priority on US 101 by the North Coastal Counties Supervisors Association.

C. Safety Improvements:

This project is in response to collisions occurring within this segment of US 101. The primary causes for the northbound collisions appear to be alignment issues (broken back curve followed by an angle point in the alignment) in combination with minimal shoulder width, close proximity of a recessed drop inlet to the northbound edge of traveled way at PM 14.65, along with wet conditions. Proposed improvements for this project include: installing of open graded friction coarse (OGFC), upgrading guardrail, correcting superelevation, eliminating roadside obstructions (the drop inlet), shoulder widening, and re-striping the roadway to eliminate the broken back curve and an angle point in the alignment. These improvements avoid having to reconstruct retaining walls and impacting the cut slopes. This strategy for addressing the wet collisions has been reviewed and approved by Traffic Safety.

D. Total Project Cost:

The total estimated cost of this project is \$1,420,000, with construction capital costs of \$1,410,000 and \$10,000 for Right of Way (for Mitigation and Project Development Fees). There are no Structure costs.

Total Roadway Items	<u>\$ 1,410,000</u>
Total Right of Way Items	<u>\$ 10,000</u>
Total Project Capital Outlay Costs	<u>\$ 1,420,000</u>

2. FEATURES REQUIRING AN EXCEPTION

A. Design Exception Feature #1
Nonstandard Features:

The existing nonstandard curves listed in the table below are proposed to be maintained except for Locations 3 and 4. The curves, identified as Locations 3 and 4, are separated by a 5-foot tangent. By replacing this broken back curve with one 347-foot curve, the alignment down station could be re-stripped to avoid an existing inflection point in the alignment.

Standard for Which Exception Is Requested:

The specific standard applicable is from Table 203.2 Standards for Curve Radius of the Highway Design Manual (HDM), Sixth Addition. The minimum curve radius for a design speed of 50 mph is 850 feet.

LOCATION	CO-RT-PM/PM	EXISTING CONDITION	DESIGN STANDARD	PROPOSED CONDITION
1	DN-101-14.50/14.54	R = 700 ft	R = 850 ft	R = 700 ft
2	DN-101-14.55/14.58	R = 600 ft	R = 850 ft	R = 600 ft
3	DN-101-14.61/14.62	R = 300 ft	R = 850 ft	R = 347 ft
4	DN-101-14.62/14.64	R = 350 ft	R = 850 ft	
5	DN-101-14.75/14.78	R = 500 ft	R = 850 ft	R = 500 ft
6	DN-101-14.80/14.81	R = 400 ft	R = 850 ft	R = 400 ft

Reason For Requesting Exception

Design Exceptions are being requested for curves at Locations 1, 2, 5 and 6 above for the curves to be maintained in the existing condition; and for curves at Locations 3 and 4 to be modified to a more improved condition. Realignment of this segment of US 101 to meet the standard would have significant impacts to right of way, potential environmental impacts, and the cost would be excessive. This segment of US 101 is on a mountainside with retaining walls supporting the roadway on the downhill side and a very steep grade on the uphill side. The area also has a history of geophysical instability. Any more than minor realignment will result in excessively high cost walls, a side-hill viaduct, or significant cuts. Right of way impacts would include acquisitions in Del Norte Redwoods State Park. Potential environmental impacts from a realigned roadway include impacts to old growth redwood groves within the Del Norte Coast Redwoods (PM 10.0/20.0). Old growth redwood groves are known habitat of the following threatened species, the Marbled Murrelet and the Northern Spotted Owl. This segment of highway is also within a Historic Landscape District, Fredrick Olmstead, Jr. (PM 13.3/22.6).

If the curve radii were corrected, the Safety Index would not be met due to high costs for the retaining walls and cut slopes. Traffic Safety concurred with this assessment.

The roadway at Locations 3 and 4 will be re-stripped with a single curve to eliminate a broken back curve condition and the inflection point in the alignment just north of these curves. The existing condition at this location is two similar curves separated by a short tangent, approximately 5 feet.

Added Cost to Make Standard

In order to meet the design standard for horizontal curvature, new retaining walls would need to be constructed, significant cuts into the steep hillsides and acquisition of right-of-way would be required. The cost for earthmoving would be approximately \$8,000,000, assuming the existing steep side slopes will be maintained. There are two existing soldier pile retaining walls within the project adding to 1430 linear feet of wall. The square footage cost for a soldier pile wall is approximately \$300 per square foot. The cost that would be required to replace the retaining walls is approximately \$9,000,000.

The estimate for right-of-way cost does not include costs for marketable timber, or costs associated with the mitigation for removing of old growth redwood trees and habitat. Permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$8,000,000	\$50,000	\$9,000,000	\$17,050,000

B. Design Exception Feature #2A

Nonstandard Features:

The existing lane widths between PM 14.71 and 14.80 will be maintained. The lane width varies between 11.2 to 12.37 feet within the project limits. The existing lane widths within Location 1 will be maintained due to the tight physical constraints for this segment of highway. The roadway is bounded by the steep hillside on the right, and MBGR and steep drop off on the left.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 301.1 Traveled Way Width of the HDM.

LOCATION	CO-RT-PM/PM	EXISTING/PROPOSED CONDITION	DESIGN STANDARD
1	DN-101-14.71/14.80	w = 11.2 – 12.3 ft	w = 12 ft

Design Exception Feature #2B

Nonstandard Features:

The existing shoulder widths will be maintained. The shoulder widths at most locations from PM 14.40 to 14.82 are less than standard. The shoulder width varies between 0.9 to 5.8 feet within the project limits.

Standard for Which Exception Is Requested:

The specific standards applicable are from Section 307.3, Two-Lane Cross Sections for RRR Projects of the HDM; and Design Information Bulletin 79-03, Geometric Design Criteria for Resurfacing, Restoration and Rehabilitation [Pavement Focused (2R) and Resurfacing, Restoration, and Rehabilitation (3R) Projects] and Certain Other Projects [Storm Damage, Protective Betterment, Operational Improvement and Safety-funded Projects].

LOCATION	CO-RT-PM/PM	EXISTING/PROPOSED CONDITION	DESIGN STANDARD
Varies	DN-101-14.4/14.8	w = 0.9 – 5.8 ft	w = 8 ft

Reason For Requesting Exception

A Design Exception is being requested for lane and shoulder width. Widening of this segment of US 101 to meet the standards would have significant impacts to right of way, potential environmental impacts, and the cost would be excessive. Right of way impacts would include acquisitions in Del Norte Redwoods State Park. Potential impacts are the same as detailed in the Design Exception Feature #1 section. The excessive cost would be due to the large cuts and/or the new retaining walls that would be required.

The shoulder width is being increased to an improved condition near PM 14.65 NB. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standards for lane width and shoulder width, significant cuts into the steep hillsides and acquisition of right-of-way would be required. The cost for earthmoving would be approximately \$5,000,000. This cost includes a design that maintains existing steep side slopes (1¹/₂:1).

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$5,000,000	\$50,000	\$0	\$5,050,000

C. Design Exception Feature #3

Nonstandard Features:

The stopping sight distance for the vertical and horizontal curves listed below are being proposed to be maintained except for Vertical Curve 4. The sight distance will be improved at Vertical Curve 4 due to a proposed grade correction at this location.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 201.1 Sight Distance, Table 201.1 Sight Distance Standards, and Figure 201.4 Stopping Sight Distance on Crest Vertical Curves.

LOCATION	CO-RT-PM/PM	EXISTING CONDITION	DESIGN STANDARD	PROPOSED CONDITION
Vertical Curve 1	DN-101-14.44	S = 361 ft	S ≥ 430 ft (V = 50 mph)	S = 361 ft
Vertical Curve 2	DN-101-14.56	S = 389 ft	S ≥ 430 ft	S = 389 ft
Vertical Curve 3	DN-101-14.62	S = 360 ft	S ≥ 430 ft	S = 360 ft
Vertical Curve 4	DN-101-14.82	S = 184 ft	S ≥ 430 ft	S = 262 ft
Horizontal Curve 1	DN-101-14.39	S = 260 ft	S ≥ 430 ft	S = 260 ft
Horizontal Curve 2	DN-101-14.50	S = 350 ft	S ≥ 430 ft	S = 350 ft
Horizontal Curve 3	DN-101-14.78	S = 220 ft	S ≥ 430 ft	S = 220 ft

Reason For Requesting Exception

Design Exceptions are being requested for the existing vertical and horizontal alignments to be maintained in the existing condition, except for the vertical alignment between PM 14.80 to 14.82, which will be modified to a more improved condition. The standard for maximum grade was not met in the existing condition. The grade will be modified from 8.5% to 7% to meet the standard

for maximum grade in mountainous terrain. In order to meet the standard for vertical sight distance, right of way impacts would include acquisitions in Del Norte Redwoods State Park. Potential impacts are the same as detailed in the Design Exception Feature #1 section. The excessive cost would be due to the large cuts and/or the new retaining walls that would be required.

The nonstandard sight distance does likely contribute to the above average collision rate. If the sight distance was corrected, the Safety Index would not be met due to high costs for the retaining walls and cut slopes. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standard for sight distance, significant cuts into the steep hillsides and acquisition of right-of-way would be required. The cost for earthmoving would be approximately \$3,250,000, assuming the existing steep side slopes will be maintained. The estimate for right-of-way cost does not include costs for marketable timber, or costs associated with the mitigation for removing old growth redwood trees and habitat. Permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000. This cost includes a design that maintains existing steep side slopes (1¹/₂:1).

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$3,250,000	\$50,000	\$0	\$3,300,000

D. Design Exception Feature #4

Nonstandard Features:

The existing nonstandard superelevation rates listed in the table below are being proposed to be maintained except for at Locations 5 and 6. The superelevation rates at Location 5 will be improved. The maximum superelevation rate at Location 6 was decreased in order to not exceed the superelevation rate of change Advisory Standard [202.5 (3) Restrictive Situations] of not exceeding 6 percent in 100 feet.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 202.2 Standards for Superelevation of the HDM.

LOCATION	CO-RT-PM/PM	EXISTING CONDITION	DESIGN STANDARD	PROPOSED CONDITION
1	DN-101-14.50/14.49	e = 0.05	e = 0.11	e = 0.05
2	DN-101-14.55/14.58	e = 0.08	e = 0.12	e = 0.08
3	DN-101-14.61/14.62	e = 0.06	e = 0.12	e = 0.06
4	DN-101-14.62/14.64	e = 0.06	e = 0.12	e = 0.06
5	DN-101-14.71/14.74	e = 0.04	e = 0.10	e = 0.09
6	DN-101-14.78/14.81	e = 0.08	e = 0.12	e = 0.06
7	DN-101-14.81/14.82	e = 0.09	e = 0.12	e = 0.09

Reason For Requesting Exception

Design Exceptions are being requested for superelevation rates at Locations 1 through 4 and 6 above for the superelevation rates to be maintained in the existing condition; and for superelevation rates at Locations 5 and 6 to be modified to a more improved condition. To achieve the superelevation rates in Table 2.2 of the HDM, realignment of this segment of US 101 would be necessary to achieve the tangent lengths necessary or decrease the curvature to meet the standard. The realignment would have significant impacts to right of way, potential environmental impacts, and the cost would be excessive. Right of way impacts would include acquisitions in Del Norte Redwoods State Park. Potential environmental impacts from a realigned roadway include impacts to old growth redwood groves within the Del Norte Coast Redwoods (PM 10.0/20.0). Old growth redwood groves are known habitat of the following threatened species, the Marbled Murrelet and the Northern Spotted Owl. This segment of highway is also within a Historic Landscape District, Fredrick Olmstead, Jr. (PM 13.3/22.6). The excessive cost would be due to the large cuts and/or the new retaining walls that would be required.

The nonstandard superelevation rate does not likely contribute to the above average collision rate. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standard for superelevation rates, new retaining walls would need to be constructed, significant cuts into the steep hillsides and acquisition of right-of-way would be required. The cost for earthmoving would be approximately \$8,000,000, assuming the existing steep side slopes will be maintained. There are two existing soldier pile retaining walls within the project adding to 1430 linear feet of wall. The square footage cost for a soldier pile wall is approximately \$300 per square foot. The cost that would be required to replace the retaining walls is approximately \$9,000,000.

The estimate for right-of-way cost does not include costs for marketable timber, or costs associated with the mitigation for removing of old growth redwood trees and habitat. Permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$8,000,000	\$50,000	\$9,000,000	\$17,050,000

E. Design Exception Feature #5

Nonstandard Features:

The existing nonstandard horizontal clearances are being proposed to be maintained. The metal beam guardrail throughout the project ranges from 2.3 to 8.7 feet from the southbound edge of traveled way. The steep hillside throughout the project ranges from less than 4 feet to 20 feet from the northbound edge of traveled way. At PM 14.47, temporary K-rail is placed at a slide location one foot from the edge of traveled way.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 309.1 Horizontal Clearances of the HDM.

LOCATION	CO-RT-PM/PM	EXISTING/PROPOSED CONDITION	DESIGN STANDARD
1	DN-101-14.39/14.82	Horizontal Clearance = 1 – 20 ft	Horizontal Clearance = 8 ft

Reason For Requesting Exception

Design Exceptions are being requested for horizontal clearances to be maintained in the existing condition. To meet the standard, the alignment would need to be shifted to the east and the roadway prism widened. There would be significant impacts to right of way, environmental impacts, and the cost would be excessive. Right of way impacts would include acquisitions in Del Norte Redwoods State Park. Potential environmental impacts from a widened roadway include

impacts to old growth redwood groves within the Del Norte Coast Redwoods (PM 10.0/20.0). Old growth redwood groves are known habitat of the following threatened species, the Marbled Murrelet and the Northern Spotted Owl. This segment of highway is also within a Historic Landscape District, Fredrick Olmstead, Jr. (PM 13.3/22.6). The excessive cost would be due to the large cuts that would be required.

The collision rate within the project limits is 6 times the statewide average for similar facilities. The collision data indicates that there was a pattern of “Hit Object” collisions at and immediately surrounding PM 14.65 NB and the majority of collisions occurred on a wet road surface. PM 14.65 is where there is currently an inflection point in the alignment, minimal shoulder width and a recessed drop inlet adjacent to the northbound edge of traveled way. The nonstandard horizontal clearance does not likely contribute to the above average collision rate. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standard for horizontal clearance, significant cuts into the steep hillsides and acquisition of right-of-way would be required. The cost for earthmoving would be approximately \$2,000,000, assuming the existing steep side slopes will be maintained.

The estimate for right-of-way cost does not include costs for marketable timber, or costs associated with the mitigation cost for removing of old growth redwood trees and habitat. Permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$4,500,000	\$50,000	\$0	\$4,550,000

3. TRAFFIC DATA

The Office of Travel Forecasting and Modeling provided the following traffic data:

DESIGN DESIGNATION AND TRAFFIC INDEX (TI)	
County-Highway-PM DN-101-14.39/14.82	
Annual ADT	
Base Year 2006	4,900
Year 2008	5,100
Year 2018	6,080
Year 2028	7,060
Peak Hour	
Base Year 2006	730
Year 2008	760
Year 2018	910
Year 2028	1,050
20 Year Directional %	60
20 Year Truck %	8
10 Year TI	9.0
20 Year TI	10.0

4. ACCIDENT ANALYSIS

The Office of Traffic Safety prepared a TASAS Table B on November 1, 2007 for the 5-year period from 4/1/2002 to 3/31/2007. Over the 5-year period, there were 48 recorded collisions within the project limits (24 Injury, 24 PDO). The principal Primary Collision Factor on this segment of highway was “Speeding” (35 of 48). The majority of the collisions were “Hit Object” type of collisions (34 of 48). There was a pattern of “Hit Object” collisions at and immediately surrounding PM 14.65 NB (See collision diagram). The majority of collisions occurred during daylight (44 of 48) and on a wet road surface (45 of 48).

The actual collision rate for this segment is 11.06 collisions per million vehicle miles (COL/MVM), which is over 6 times greater than the statewide average rate of 1.73 COL/MVM for similar roadways. The five-year collision rates are shown below:

4-01-02 TO 3-31-07					
ACTUAL			STATEWIDE AVERAGE		
Fatal	F+I	Total	Fatal	F+I	Total
0.0	5.53	11.06	0.036	0.87	1.73
<i>Accident rates expressed as # of accidents / million vehicle miles</i>					

5. INCREMENTAL IMPROVEMENTS

Currently there are no incremental improvements proposed for this location.

6. FUTURE CONSTRUCTION

Currently there are no future construction projects planned for this location.

7. PROJECT REVIEWS, CONCURRENCE

District 1 Office of Traffic Safety, Ralph Martinelli, reviewed the design exceptions on 1/5/08, and he is in concurrence with proposed project. On February 5, 2008, the Project Manager, Kevin Church, and the Project Development Team also reviewed and concurred with the proposed improvements documented in this Design Exception.

On March 11, 2008, Heidi Sykes, Headquarters Design Reviewer, reviewed and concurred with these proposed design exceptions.

8. ATTACHMENTS

- Location Map (Attachment A)
- Typical Cross Sections (Attachment B)
- Layout Maps (Attachment C)
- Collision Diagram (Attachment J)

DIST-CO-RTE PM/PM: 01-DN-101-14.39/14.82
EA (OR PERMIT #): 01-48170K
PROJECT COST: \$1,210,000
SOURCE FUND: 201.010

Fact Sheet Exception(s) To Advisory Design Standard(s)



Prepared by:

Valency M. Langtry
Registered Civil Engineer

3-13-08 445-5208
Date Telephone

Submitted by:

Ilene Poindexter
Ilene Poindexter, Advance Planning
Branch Chief

3/14/08 441-3969
Date Telephone

Approved by:

JR Bulinski
For John Bulinski, Office Chief of Design

3/20/08 445-6602
Date Telephone

1. PROPOSED PROJECT

A. Project Description:

District 1 Advance Planning is currently preparing Project Report/Project Study Report (PR/PSR) for this 201.010 Safety Project. The project proposes to place open graded friction course (OGFC), reconstruct a segment of structural section, and widen a segment of the northbound shoulder. The purpose and need of this project is to reduce the frequency and severity of all collisions within the project limits, particularly wet collisions. The geographic location for this project is on US 101 in Del Norte County approximately 1.8 miles north of Wilson Creek and just south of Last Chance Grade (from PM 14.39 to PM 14.82).

B. Existing Highway:

The section of US 101 within the project limits is two-lane conventional and located within the Coastal Zone boundary. The existing alignment parallels the coastline and is curvilinear with most of the curves within the project limits with radii less than the mandatory standard. Soil stability is a factor of concern along this stretch of US 101; and existing retaining walls are located along 0.27 miles of the 0.43-mile project. The general highway characteristics within the project limits include lane widths varying from 11 to 13.5 feet wide, shoulders from a little less than 1 foot to 5.8 feet. The horizontal curve radii range from approximately 300 feet to 2400 feet. The design speed of the facility, based on mountainous terrain, is 50 mph. The posted speed limit is 55 mph. The maximum comfortable speed ranges from 35 mph to 45 mph for six of the eight curves within the project limits. The grade varies from approximately 1.5% toward the south end of the project to a maximum of 8.5% at the north end. The superelevation at curves varies from 4 to 12 percent, with the majority of the curves below the design standard for the particular radius. The superelevation runoff and runoff length Advisory Standards are not met at the north end of the project.

The adjacent highway segments have similar nonstandard features regarding horizontal curvature, lane and shoulder width, and superelevation. The segment of roadway adjacent to the project, the Wilson Creek Bluffs, PM 15.0 to 15.6, has been identified as the number 1 priority for improvements on US 101 by the North Coastal Counties Supervisors Association.

C. Safety Improvements:

This project is in response to the number of collisions occurring within this segment of US 101. The primary causes for the northbound collisions appear to be alignment issues (broken back curve followed by an angle point in the alignment) in combination with nonstandard shoulder width, close proximity of a recessed drop inlet to the northbound edge of traveled way at PM 14.65, along with wet conditions. Proposed improvements for this project include: placing open graded friction coarse (OGFC), upgrading guardrail, correcting superelevation, eliminating roadside obstructions (the drop inlet), shoulder widening, and re-striping the roadway to eliminate the broken back curve and an angle point in the alignment. These improvements avoid having to reconstruct retaining walls and impacting the cut slopes. This strategy for addressing the wet collisions has been reviewed and approved by Traffic Safety.

D. Total Project Cost:

The total estimated cost of this project is \$1,420,000, with construction capital costs of \$1,410,000 and \$10,000 for Right of Way (for Mitigation and Project Development Fees). There are no Structure costs.

Total Roadway Items	\$ <u>1,410,000</u>
Total Right of Way Items	\$ <u>10,000</u>
Total Project Capital Outlay Costs	\$ <u>1,420,000</u>

2. FEATURES REQUIRING AN EXCEPTION

A. Advisory Exception Feature #1

Nonstandard Features:

The existing superelevation transitions in the tables below are proposed to be maintained except for Locations 7, 8, and 9 in Table (1) and Location 6 in Table (2). The transition lengths will be improved at Locations 7, 8 and 9. The existing superelevation transition lengths range from 23 to 145 feet less than recommended transition lengths from the Highway Design Manual, Sixth Addition (HDM). Additionally, most of the existing superelevation transitions do not occur 1/3 within the curve and 2/3 outside of the curve.

At Locations 7, 8, and 9, described in the tables below, the structural section is being modified which will result in improved superelevation rates, transition lengths and runoff (1/3:2/3).

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 202.5 Superelevation Transition, (1) General (transition length, L) and (2) Runoff (1/3L within the curve and 2/3L outside the curve); and Figure 202.5A Superelevation Transition of the HDM.

Table (1) Transition Length

LOCATION	CO-RT-PM/PM	EXISTING CONDITION	DESIGN STANDARD	PROPOSED CONDITION
1	DN-101-14.39/14.41	L = 277 ft	L = 300 ft	L = 277 ft
2	DN-101-14.44/14.49	L = 127 ft	L = 165 ft	L = 127 ft
3	DN-101-14.50/14.54	L = 85 ft	L = 150 ft	L = 85 ft
4	DN-101-14.55/14.58	L = 131 ft	L = 210 ft	L = 131 ft
5	DN-101-14.61/14.62	L = 86 ft	L = 165 ft	L = 86 ft
6	DN-101-14.62/14.64	L = 145 ft	L = 165 ft	L = 145 ft
7	DN-101-14.71/14.74	L = 87 ft	L = 150 ft	L = 160 ft
8	DN-101- 14.75/14.78	L = 94 ft	L = 230 ft	L = 104 ft
9	DN-101- 14.80/14.81	L = 95 ft	L = 240 ft	L = 133 ft

Table (2) Runoff

LOCATION	CO-RT-PM/PM	EXISTING CONDITION	DESIGN STANDARD	PROPOSED CONDITION
1	DN-101-14.44/14.49	1L inside/ 0L outside	0.33L inside/ 0.67L outside	1L inside/ 0L outside
2	DN-101-14.50/14.54	1L inside/ 0L outside	0.33L inside/ 0.67L outside	1L inside/ 0L outside
3	DN-101-14.55/14.58	0.48L inside/ 0.52L outside	0.33L inside/ 0.67L outside	0.48L inside/ 0.52L outside
4	DN-101-14.61/14.62	1L inside/ 0L outside	0.33L inside/ 0.67L outside	1L inside/ 0L outside
5	DN-101-14.62/14.64	0.13L inside/ 0.87L outside	0.33L inside/ 0.67L outside	0.13L inside/ 0.87L outside
6	DN-101-14.71/14.74	0L inside/ 1L outside	0.33L inside/ 0.67L outside	0.24L inside/ 0.76L outside

Reason For Requesting Exception

Design Exceptions are being requested to maintain the existing superelevation transitions throughout the project limits except at Locations 7, 8 and 9 in Table (1) and Location 6 in Table (2). Realignment of this segment of US 101 to lengthen the tangents and smooth out the curvature, to meet the standard would have significant impacts to Right of Way, potential environmental impacts, and the cost would be excessive. This segment of US 101 is on a mountainside with retaining walls supporting the roadway on the downhill side and a very steep grade on the uphill side. The area also has a history of geophysical instability. Any more than

minor realignment will result in excessively high cost walls, a side-hill viaduct, or significant cuts. Right of Way impacts would include acquisitions in Del Norte Redwoods State Park. Potential impacts from a realigned roadway include impacts to old growth redwood groves within the Del Norte Coast Redwoods (PM 10.0/20.0). Old growth redwood groves are known habitat of the following threatened species, the Marbled Murrelet and the Northern Spotted Owl. This segment of highway is also within a Historic Landscape District, Fredrick Olmstead, Jr. (PM 13.3/22.6).

The roadway at Locations 3 and 4 will be re-striped with a single curve to eliminate a broken back curve condition and the inflection point in the alignment just north of these curves. The existing condition at this location is two similar curves separated by a short tangent, approximately 5 feet.

The less than standard superelevation transition and runoff is not considered a contributing to the above average collision rate. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standards for superelevation transitions, new retaining walls, significant cuts into the steep hillsides and acquisition of Right-of-Way would be required. The cost for earthmoving would be approximately \$8,000,000, assuming the existing steep side slopes will be maintained. There are two existing soldier pile retaining walls within the project adding to 1430 linear feet of wall that would require replacement. The square footage cost for a soldier pile wall is approximately \$300 per square foot. The cost that would be required to replace the retaining walls is approximately \$9,000,000.

The estimate for Right-of-Way cost does not include costs for marketable timber, or costs associated with the mitigation for removing old growth redwood trees and habitat. Resource agency permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$8,000,000	\$50,000	\$9,000,000	\$17,050,000

B. Advisory Exception Feature #2

Nonstandard Features:

The existing curvature with regards to alignment consistency will be maintained. The design speed between successive curves changes more than 10 miles per hour at curve locations listed in the table below.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 203.3 Alignment Consistency of the HDM.

LOCATION	CO-RT-PM/PM	EXISTING/PROPOSED CONDITION	DESIGN STANDARD
1	DN-101-14.39/14.49	$\Delta V = 25$ mph	$\Delta V \leq 10$ mph
2	DN-101-14.44/14.54	$\Delta V = 27$ mph	$\Delta V \leq 10$ mph
3	DN-101-14.61/14.74	$\Delta V = 20$ mph	$\Delta V \leq 10$ mph
4	DN-101-14.71/14.78	$\Delta V = 15$ mph	$\Delta V \leq 10$ mph

Reason For Requesting Exception

An Advisory Design Exception is being requested to maintain the existing alignment, which does not meet the design standard for alignment consistency. The issues are the same as discussed in the "Reason For Requesting Exception" section under Advisory Exception Feature #1. The

impacts to obtain standard alignment consistency are significant and would render this project unfundable.

The nonstandard alignment consistency is not considered a contributing factor to the above average collision rate. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standard for alignment consistency, new retaining walls, significant cuts into the steep hillsides and acquisition of Right-of-Way would be required. The cost for earthmoving would be approximately \$8,000,000, assuming the existing steep side slopes will be maintained. There are two existing soldier pile retaining walls within the project adding to 1430 linear feet of wall. The square footage cost for a soldier pile wall is approximately \$300 per square foot. The cost that would be required to replace the retaining walls is approximately \$9,000,000.

The estimate for Right-of-Way cost does not include costs for marketable timber, or costs associated with the mitigation for removing old growth redwood trees and habitat. Resource agency permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$8,000,000	\$50,000	\$9,000,000	\$17,050,000

C. Advisory Exception Feature #3

Nonstandard Features:

The nonstandard existing vertical curves listed in the table below are being proposed to be maintained.

Standard for Which Exception Is Requested:

The specific standard applicable is from Section 204.4 Vertical Curves of the Highway Design Manual.

LOCATION	CO-RT-PM/PM	EXISTING/PROPOSED CONDITION	DESIGN STANDARD
Vertical Curve 1	DN-101-14.44	L = 145 ft	L ≥ 500 ft (V = 50 mph)
Vertical Curve 2	DN-101-14.56	L = 95 ft	L ≥ 500 ft
Vertical Curve 3	DN-101-14.62	L = 100 ft	L ≥ 200 ft
Vertical Curve 4	DN-101-14.82	L = 60 ft	L ≥ 200 ft
Vertical Curve 5	DN-101-14.39	L = 60 ft	L ≥ 200 ft
Vertical Curve 6	DN-101-14.50	L = 180 ft	L ≥ 500 ft
Vertical Curve 7	DN-101-14.78	L = 140 ft	L ≥ 200 ft
Vertical Curve 8	DN-101-14.44	L = 115 ft	L ≥ 200 ft
Vertical Curve 9	DN-101-14.44	L = 60 ft	L ≥ 500 ft
Vertical Curve 10	DN-101-14.44	L = 60 ft	L ≥ 500 ft

Reason For Requesting Exception

Design Exceptions are being requested for the existing vertical curves to be maintained in the existing condition. The issues are the same as discussed in the “Reason For Requesting Exception” section under Advisory Exception Feature #1. The impacts to obtain standard vertical curvature are significant and would render this project unfundable.

The collision rate within the project limits is 6 times the statewide average for similar facilities. The collision data indicates that there was a pattern of “Hit Object” collisions at and immediately surrounding PM 14.65 NB and the majority of collisions occurred on a wet road surface. PM 14.65 is where there is currently an inflection point in the alignment, nonstandard shoulder width and a recessed drop inlet adjacent to the northbound edge of traveled way. The nonstandard vertical curve lengths rate do not likely contribute to the above average collision rate. Traffic Safety concurred with this assessment.

Added Cost to Make Standard

In order to meet the design standard for vertical curvature, new retaining walls would need to be constructed, significant cuts into the steep hillsides and acquisition of Right-of-Way would be required. The cost for earthmoving would be approximately \$8,000,000, assuming the existing steep side slopes will be maintained. There are two existing soldier pile retaining walls within the project adding to 1430 linear feet of wall. The square footage cost for a soldier pile wall is approximately \$300 per square foot. The cost that would be required to replace the retaining walls is approximately \$9,000,000.

The estimate for Right-of-Way cost does not include costs for marketable timber, or costs associated with the mitigation for removing old growth redwood trees and habitat. Resource agency permit fees for the Last Chance Grade Project (PM 14.8 to 15.6) were \$10,000.

ALTERNATIVE	ROADWAY	RIGHT OF WAY	STRUCTURES	TOTAL
A	\$8,000,000	\$50,000	\$9,000,000	\$17,050,000

3. TRAFFIC DATA

The Office of Travel Forecasting and Modeling provided the following traffic data:

DESIGN DESIGNATION AND TRAFFIC INDEX (TI)	
County-Highway-PM DN-101-14.39/14.82	
Annual ADT	
Base Year 2006	4,900
Year 2008	5,100
Year 2018	6,080
Year 2028	7,060
Peak Hour	
Base Year 2006	730
Year 2008	760
Year 2018	910
Year 2028	1,050
20 Year Directional %	60
20 Year Truck %	8
10 Year TI	9.0
20 Year TI	10.0

4. ACCIDENT ANALYSIS

The Office of Traffic Safety prepared a TASAS Table B on November 1, 2007 for the 5-year period from 4/1/2002 to 3/31/2007. Over the 5-year period, there were 48 recorded collisions within the project limits (24 Injury, 24 PDO). The principal Primary Collision Factor on this segment of highway was “Speeding” (35 of 48). The majority of the collisions were “Hit Object” type of collisions (34 of 48). There was a pattern of “Hit Object” collisions at and immediately surrounding PM 14.65 NB (See collision diagram). The majority of collisions occurred during daylight (44 of 48) and on a wet road surface (45 of 48).

The actual collision rate for this segment is 11.06 collisions per million vehicle miles (COL/MVM), which is over 6 times greater than the statewide average rate of 1.73 COL/MVM for similar roadways. The five-year collision rates are shown below:

4-01-02 TO 3-31-07					
ACTUAL			STATEWIDE AVERAGE		
Fatal	F+I	Total	Fatal	F+I	Total
0.0	5.53	11.06	0.036	0.87	1.73
<i>Accident rates expressed as # of accidents / million vehicle miles</i>					

5. INCREMENTAL IMPROVEMENTS

Currently there are no incremental improvements proposed for this location.

6. FUTURE CONSTRUCTION

Currently there are no future construction projects planned for this location.

7. PROJECT REVIEWS, CONCURRENCE

District 1 Office of Traffic Safety, Ralph Martinelli, reviewed the design exceptions on 1/5/08, and he is in concurrence with the proposed project. On 2/5/2008, the Project Manager, Kevin Church, and the Project Development Team also reviewed and concur with the proposed improvements documented in this Design Exception.

On March 11, 2008, Heidi Sykes, Headquarters Design Reviewer, reviewed and concurs with these proposed design exceptions.

8. ATTACHMENTS

- Location Map (Attachment A)
- Typical Cross Sections (Attachment B)
- Layout Maps (Attachment C)
- Collision Diagram (Attachment J)

ATTACHMENT L

STORM WATER DATA REPORT

Short Form - Storm Water Data Report



Dist-County-Route: 01-DN-101

Post Mile (Kilometer Post) Limits: PM 14.39/14.82

Project Type: Install OGFC, reconstruct structural section, modify drainage system and reconstruct MBGR.

EA: 01-48170K

RU: 01-216

Program Identification: 201.010 Safety

Phase: [X]PID [X]PA/ED []PS&E

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

- 1. Is the project required to consider incorporating Treatment BMPs? []Yes [X]No
2. Does the project disturb more than 0.25 acres of soil? []Yes [X]No
3. Is the project part of a Common Plan of Development? []Yes [X]No
4. Does the project potentially create permanent water quality impacts? []Yes [X]No
5. Does the project require a notification of ADL reuse? []Yes [X]No

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

Estimated Construction Start Date: 5/2009 Construction Completion Date: 11/2009

Separate Dewatering Permit (if Yes, permit number) []Yes Permit #: []No

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

Valency M. Langtry, Registered Project Engineer 4-9-08 Date

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

STAMP [Required for PS&E only]

Ted Schultz 4-9-08 Date Ted Schultz, North Region NPDES Coordinator

1. Project Description

The project proposes to place open graded friction course (OGFC) and reconstruct the structural section of a segment of the project. Some of the major features of the project include:

- Place OGFC from PM 14.39 to 14.82
- Reconstruct structural section from PM 14.67 to 14.82
- Widening a segment of the northbound shoulder and re-striping the lane lines.
- Construct vegetation control-concrete pavement
- Replace the existing drop inlet, extend existing 18" culvert, and place new drop inlet
- Reset roadside signs
- Install imported material (shoulder backing)
- Reconstruct metal beam guard rail (MBGR) and terminal end sections

There will be no new or modified slopes within the scope of this project. Disturbed soil area is estimated at 0.10 acres. Asphalt concrete grindings will be recycled/disposed of off site at a Caltrans Maintenance facility on Elk Valley Road in Crescent City. The disturbed soil area was calculated by adding the measured disturbed areas for modifying the drainage system and shoulder at PM 14.65, and for the shoulder backing within for the reconstruct structural section, PM 14.67 to 14.82. The increase in impervious surface area is estimated at 0.02 acres.

The project area sheetflows or drains to unnamed channels discharging to the Pacific Ocean. This reach of the Pacific Coast is within one of the Areas of Special Biological Significance (ASBS) established by the State Water Resources Control Board (SWRCB). In cooperation with the SWRCB, Caltrans is monitoring highway stormwater runoff at selected ASBS locations. The project area is not a High Risk Area. This project will not require a 401 Certification.

The project limits are shown on the attached vicinity map.

2. Construction Site BMPs

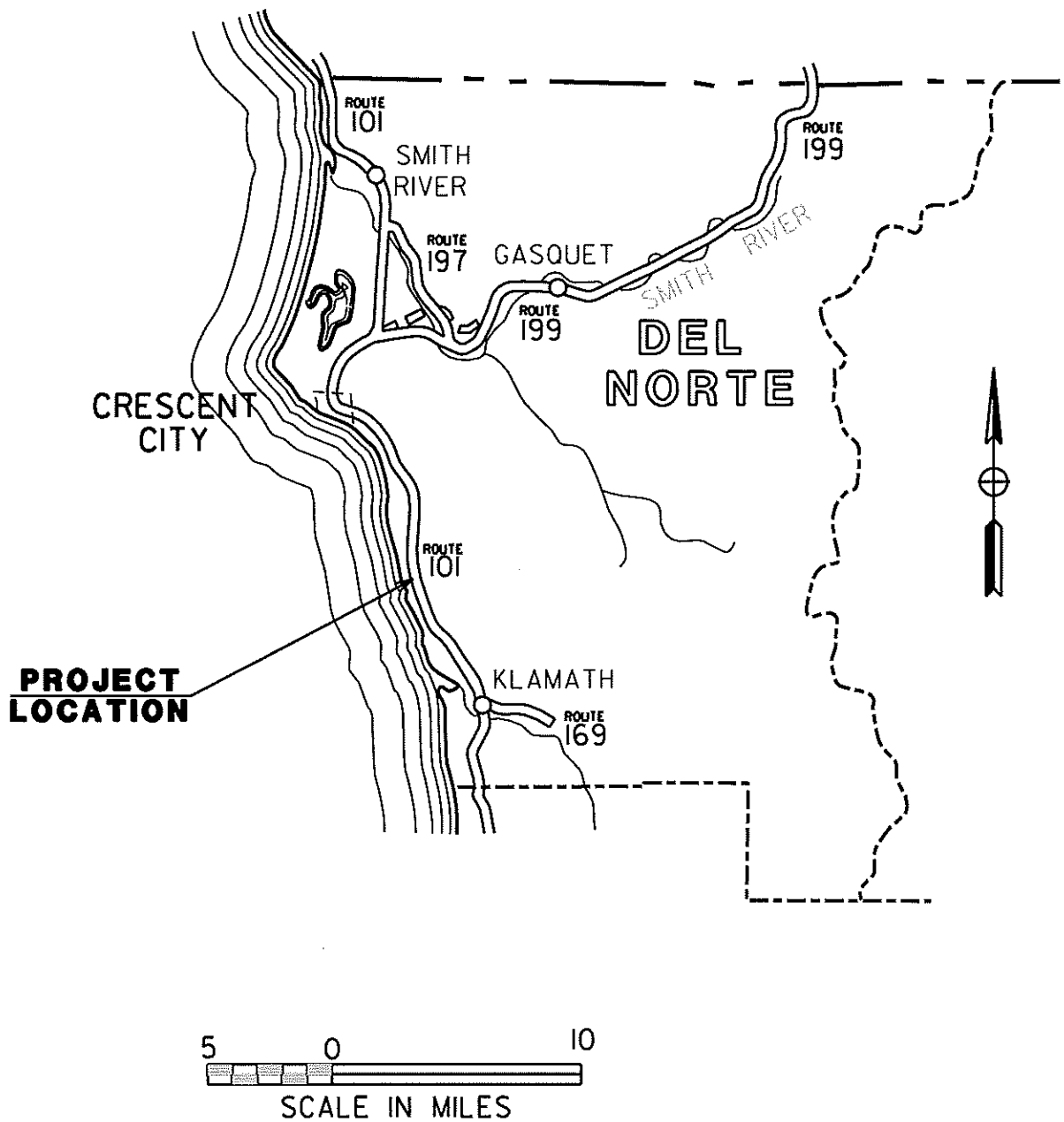
The project requires a Water Pollution Control Program (WPCP) be prepared because the total disturbed area is less than 1 acre as stated in Section 3 of the Caltrans SWPPP/WPCP Preparation Manual.

Construction activities at the project will result in 0.10 acres of disturbed soil as defined by the Caltrans Project Planning and Design Guide (PPDG). The cost of Construction BMPs for this project is estimated using "Historical Project Cost Method," as described in Appendix F of the Project Planning and Design Guide (PPDG).

Potential construction site best management practices (BMPs) to be made separate bid line items include: Prepare WPCP, Construction Site Management (Spill Prevention and Control, Material Management, Waste Management, Non-Storm Water Management, Stockpile Management and Concrete Waste Management), Temporary Concrete Washout Facility (Portable), Straw Mulch, Fiber Rolls, and Temporary Drain Inlet Protection.

REQUIRED ATTACHEMENTS

- Vicinity Map
- Evaluation Documentation Form
- Construction Site BMP Consideration Form



LOCATION MAP

01-DN-101-PM 14.39/14.82

Evaluation Documentation Form

DATE: 03-11-08

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

EA: 01-481700

NO.	CRITERIA	YES	NO	SUPPLEMENTAL INFORMATION FOR EVALUATION
1.	Begin Project Evaluation regarding requirement for consideration of Treatment BMPs	<input checked="" type="checkbox"/>		Go to 2
2.	Is this an emergency project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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 (as determined by the NPDES Coordinator). <u>TS</u> (Dist./Reg. SW Coordinator initials) If No , continue to 4.
4.	Is the project within an urban MS4?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If Yes , continue to 5. (<i>write the MS4 Area here</i>) If No , go to 11.
5.	Is the project directly or indirectly discharging to surface waters?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes , continue to 6. If No , go to 11.
6.	Is this a new facility or major reconstruction?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes , continue to 8. If No , go to 7.
7.	Will there be a change in line/grade or hydraulic capacity?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes , continue to 8. If No , go to 11.
8.	Is the Disturbed Soil Area (DSA) created by the project <u>greater than or equal to 3.0 acres</u> or does the project result in a <u>net increase of one acre or more of new impervious surface</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes , continue to 10. If No , go to 9. _____ (Total DSA quantity)
9.	Is the project part of a Common Plan of Development?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes , continue to 10. If No , go to 11.
10.	Project is required to consider approved Treatment BMPs.	<input type="checkbox"/>		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. <u>TS</u> (Dist./Reg. SW Coord. Initials) <u>WJ</u> (Project Engineer Initials) <u>4-9-08</u> (Date)	<input checked="" type="checkbox"/>		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

Construction Site BMP Consideration Form

DATE: 03-11-08

Project Evaluation Process for the Consideration of Construction Site BMPs

EA: 01-481700

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)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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.	<input checked="" type="checkbox"/>		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 M

RISK MANAGEMENT PLAN

Project Risk Register

DIST- EA 01-48170						Project Name: Wilson Creek Safety			Project Manager: Kevin Church					Date Created:	Last Updated:		
						Co - Rte - PM: DN-101_14.39/14.82			Telephone: 707 445-6440								
ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
###	01-48170-01	Active	Threat	DESIGN	03/14/08	CDP Permit	SW Pipe	TIME	Probability 3 <div style="background-color: green; color: black; text-align: center; padding: 2px;">Low</div> Impact 2	Schedule	ENV 7074455208 valency_langtry@dot.ca.gov	Coordination with CCC/DN	accept	Work Around		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-02	Active	Threat	DESIGN	03/14/08	401/404 Wetland on Project	SW Pipe	TIME	Probability 1/2 <div style="background-color: green; color: black; text-align: center; padding: 2px;">Low</div> Impact 1	Schedule	ENV 7074455208 valency_langtry@dot.ca.gov	Wetland Delineation	accept	Work Around		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	
###	01-48170-03	Active	Threat	DESIGN	03/14/08	Hazardous waste site analysis incomplete	Performance and Reliability	COST	Probability 2=Low (10-19%) <div style="background-color: green; color: black; text-align: center; padding: 2px;">Low</div> Impact 2 =Low		Valency Langtry 7074455208 valency_langtry@dot.ca.gov	Large amount of aerially deposited lead discovered	ACCEPT	Adjust cost to handle contaminated soils		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-04	Active	Threat	DESIGN	03/14/08	Deficiencies in subgrade within limits reconstruct structural	Complexity and Interface	COST	Probability 2=Low (10-19%) <div style="background-color: green; color: black; text-align: center; padding: 2px;">Low</div> Impact 2 =Low		Valency Langtry 7074455208 valency_langtry@dot.ca.gov	Discovered Geotech investigations	ACCEPT	Adjust design to address problem areas		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	
###	01-48170-05	Active	Threat	ENV	03/14/08	Need CDP	Requirement	TIME	Probability 3=Med (20-39%) <div style="background-color: green; color: black; text-align: center; padding: 2px;">Low</div> Impact 2 =Low		Valency Langtry 7074455208 valency_langtry@dot.ca.gov	Response for coastal commission	MITIGATE	Early contact with county officials.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-06	Active	Threat	ENV	03/14/08	Wetland	Requirement	TIME	Probability 2=Low (10-19%) <div style="background-color: yellow; color: black; text-align: center; padding: 2px;">Med</div> Impact 4 =Med		Valency Langtry 7074455208 valency_langtry@dot.ca.gov	Wetland Delineation	MITIGATE	early with agencies		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	

Project Risk Register

DIST- EA 01-48170		Project Name: Wilson Creek Safety							Project Manager: Kevin Church					Date Created:	Last Updated:		
		Co - Rte - PM: DN-101_14.39/14.82							Telephone: 707 445-6440								
ITEM	ID #	Status	Threat / Opport-unity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
###	01-48170-07	Active	Threat	ORG	03/14/08	Inexperienced staff assigned	Resource	TIME	Probablility 5=Very High (60-99%) Med Impact 2 =Low		Kevin Church 7074456440 kevin_church@dot.ca.gov	inexperienced staff assigned	MITIGATE	ensure new staff has mentoring		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-08	Active	Threat	ORG	03/14/08	Losing critical staff at crucial point of the project	Resource	TIME	Probablility 2=Low (10-19%) Med Impact 4 =Med		Kevin Church 7074456441 kevin_church@dot.ca.gov	staff leaves project	ACCEPT	Work Around		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-09	Active	Threat	ORG	03/14/08	Functional units not available, overloaded	Project dependencies	TIME	Probablility 2=Low (10-19%) Med Impact 4 =Med		Kevin Church 7074456442 kevin_church@dot.ca.gov	Functional unit notifies PM	MITIGATE	communicate with Team regularly to prioritize work.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-10	Active	Threat	ORG	03/14/08	Lack of specialized (biology, anthropology, geotechnical, archeology, etc.)	Resource	TIME	Probablility 2=Low (10-19%) Med Impact 4 =Med		Kevin Church 7074456443 kevin_church@dot.ca.gov	Env. Team notifies PM	AVOID	work with Env. Team to ensure staff availability.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-11	Active	Threat	ORG	03/14/08	Capital funding unavailable for right of way or construction	Funding	TIME	Probablility 1=Very Low (1-9%) Med Impact 8 =High		Kevin Church 7074456444 kevin_church@dot.ca.gov	budget and/or program funding change	ACCEPT	work around		230 PREPARE DRAFT PS&E	
###	01-48170-12	Active	Threat	PM	03/14/08	no control over staff priorities	Controlling	TIME	Probablility 2=Low (10-19%) Med Impact 4 =Med		Kevin Church 7074456445 kevin_church@dot.ca.gov	Project Starts	MITIGATE	communicate with Team regularly to prioritize work.		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###	01-48170-13	Active	Threat	PM	03/14/08	estimating and/or scheduling errors	Estimating	COST	Probablility 3=Med (20-39%) Low Impact 2 =Low		Kevin Church 7074456446 kevin_church@dot.ca.gov	First Estimate	ACCEPT	Work Around		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	

Project Risk Register

DIST- EA 01-48170		Project Name: Wilson Creek Safety							Project Manager: Kevin Church					Date Created:	Last Updated:		
		Co - Rte - PM: DN-101_14.39/14.82							Telephone: 707 445-6440								
ITEM	ID #	Status	Threat / Opportunity	Category	Date Risk Identified	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Cost/Time Impact Value	Risk Owner	Risk Trigger	Strategy	Response Actions w/ Pros & Cons	Adjusted Cost/Time Impact Value	WBS Item	Status Date and Review Comments
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
###	01-48170-14	Active	Threat	PM	03/14/08	unplanned work that must be accomodated	Planning	TIME	Probablility 3=Med (20-39%) Low Impact 2 =Low		Kevin Church 7074456447 kevin_church@dot.ca.gov	New required work Identified	ACCEPT	Work Around		180 PREPARE AND APPROVE PROJECT REPORT AND FINAL ENVIRONMENTAL DOCUMENT	
###	01-48170-15	Active	Threat	PM	03/14/08	underestimated support resources or overly optimistic delivery schedule	Planning	COST	Probablility 3=Med (20-39%) Med Impact 4 =Med		Kevin Church 7074456448 kevin_church@dot.ca.gov	0	MITIGATE	0		165 PERFORM ENVIRONMENTAL STUDIES AND PREPARE DRAFT ENVIRONMENTAL DOCUMENT	
###									Probablility Impact								
###									Probablility Impact								
###									Probablility Impact								
###									Probablility Impact								

ATTACHMENT N

PROGRAMMING SHEET

PROGRAMMING SHEET

Project Manager: KEVIN CHURCH

01-DN-101-PM 14.39/14.82

Date: 08-Jun-08

EA 01-48170_
20.10.201.010 Install OGAC

PROJECT SCHEDULE

MILESTONE	DATE
Begin Environmental Document (M020)	N/A
Begin Project Report (M040) (Begin Design of Project)	N/A
Circulate Environmental Document (M120)	N/A
Project Approval & Environmental Document (M200)	6/1/2008
District Submits Bridge Site Data to Structures (M221)	N/A
Right of Way Maps (M224)	N/A
Draft Structures Plans, Specifications & Estimate (M378)	N/A
Project Plans, Specifications & Estimate (M380)	4/1/2009
Right of Way Certification (M410)	7/1/2009
Ready to List (M460)	7/15/2009
HQ Advertise (M480)	8/1/2009
Approve Construction Contract (M500)	10/1/2009
Contract Acceptance (M600)	10/1/2010

Escalation Factors Used: Capital: 07/08=3.6%, 08/09=3.6%, 09/10=3.7%, 10/11=4.4%
Support:07/08=8%, 08/09=3%, 09/10=2%, 10/11=2%

2008 COSTS

Const: \$ 1,410
R/W: \$ 10

PROJECT COSTS BY SB45 CATEGORY

Costs are in thousands of dollars

CAPITAL COSTS	07/08	08/09	09/10	10/11	11/12	12/13	FUTURE	TOTAL
Right of Way	\$ -	\$ -	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ 10
Construction	\$ -	\$ -	\$ 1,512	\$ -	\$ -	\$ -	\$ -	\$ 1,512
CAPITAL TOTAL								\$ 1,522

SUPPORT COSTS

*includes Actuals

Environmental	\$ 20	\$ 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23
Design	\$ -	\$ 140	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 140
Right of Way	\$ 0	\$ 2	\$ 2	\$ 2	\$ 1	\$ -	\$ -	\$ 8
Construction	\$ -	\$ -	\$ 143	\$ 36	\$ -	\$ -	\$ -	\$ 179
SUPPORT COSTS								\$ 350

TOTAL PROJECT COSTS \$ 1,871

SUPPORT TO CAPITAL RATIO/% 23%

\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

SUPPORT PY'S by DIVISION

Number of Hours in a PY: 1758

PROJECT SUPPORT IN PYS

	07/08	08/09	09/10	10/11	11/12	12/13	FUTURE	TOTAL
Transportation Planning	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.1
District Design	0.00	0.92	0.10	0.09	0.00	0.00	0.00	1.1
Right of Way	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.1
District Construction	0.01	0.10	0.84	0.14	0.00	0.00	0.00	1.1
DES Design	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.1
DES Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
TOTAL	0.07	1.22	0.95	0.23	0.00	0.00	0.00	2.5

Comments: