

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017  
PROJECT BASELINE AGREEMENT  
Big Pave Segment 2 (EA 04-0J642)

Resolution SHOPP-P-1819-04B  
(will be completed by CTC)

**1. FUNDING PROGRAM**

- Active Transportation Program
- Local Partnership Program (Competitive)
- Solutions for Congested Corridors Program
- State Highway Operation and Protection Program
- Trade Corridor Enhancement Program

**2. PARTIES AND DATE**

2.1 This Project Baseline Agreement (Agreement) for the *Big Pave Segment 2 (EA 04-0J642)*, effective on, OCTOBER 17, 2018 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the "Parties".

**3. RECITAL**

- 3.2 Whereas at its March 22, 2018 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *Big Pave Segment 2 (EA 04-0J642)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.
- 3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

**4. GENERAL PROVISIONS**

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

- 4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.
- 4.2 To adhere, as applicable, to the provisions of the Commission:
  - Resolution *Insert Number*, "Adoption of Program of Projects for the Active Transportation Program", dated
  - Resolution *Insert Number*, "Adoption of Program of Projects for the Local Partnership Program", dated
  - Resolution *Insert Number*, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
  - Resolution G-18-13, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated March 22, 2018
  - Resolution *Insert Number*, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

- 4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.
- 4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.
- 4.5 Caltrans agrees to secure funds for any additional costs of the project.
- 4.6 Caltrans agrees to report on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.
- 4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.
- 4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

## 5. SPECIFIC PROVISIONS AND CONDITIONS

- 5.1 Project Schedule and Cost  
See Project Programming Request Form, attached as Exhibit A.
- 5.2 Project Scope  
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.
- 5.3 Other Project Specific Provisions and Conditions


### Attachments:

- Exhibit A: Project Programming Request Form  
Exhibit B: Project Report

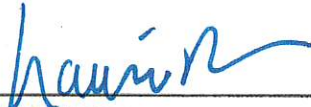
SIGNATURE PAGE  
TO  
PROJECT BASELINE AGREEMENT

IN AND NEAR WINDSOR, HEALDSBURG, AND CLOVERDALE FROM OLD REDWOOD HIGHWAY  
TO 2.0 MILES SOUTH OF MENDOCINO COUNTY LINE. ROADWAY REHABILITATION  
Project EA 04-0J642

Resolution SHOPP - P - 1819 - 04B

  
\_\_\_\_\_  
James E. Davis  
District Director (Acting)  
California Department of Transportation

7/23/18  
Date

  
\_\_\_\_\_  
Laurie Berman  
Director  
California Department of Transportation

9-28-18  
Date

  
\_\_\_\_\_  
Susan Bransen  
Executive Director  
California Transportation Commission

10/26/18  
Date

Baseline agreement information was extracted from Caltrans's project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

**BASELINE AGREEMENT**

<b>Date:</b>	09/18/18 12:13:44 PM
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<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>Project Manager</b>		
04	OJ642	0414000476		1482F	JOSEPH, BETCY		
<b>County</b>	<b>Route</b>	<b>Begin Postmile</b>	<b>End Postmile</b>	<b>Implementing Agency</b>			
SON	101	29.3	R 54.3	PA&ED	Caltrans		
				PS&E	Caltrans		
				Right of Way	Caltrans		
				Construction	Caltrans		
<b>Project Nickname</b>							
BIG PAVE SEGMENT 2							
<b>Location/Description</b>							
In and near Windsor, Healdsburg, and Cloverdale, from Old Redwood Highway to 2.0 miles south of Mendocino County line. Roadway rehabilitation.							
<b>Legislative Districts</b>							
<b>Assembly:</b>	02	<b>Senate:</b>	02	<b>Congressional:</b>	02		
<b>PERFORMANCE MEASURES</b>							
	<b>Primary Asset</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>	<b>New</b>	<b>Total</b>	<b>Units</b>
Existing Condition	Pavement	15.82	26.27	1.11		43.2	Lane-miles
Programmed Condition		43.2				43.2	
<b>Project Milestone</b>						<b>Actual</b>	<b>Planned</b>
Project Approval and Environmental Document Milestone						04/19/18	
Right of Way Certification Milestone							06/03/19
Ready to List for Advertisement Milestone							06/03/19
Begin Construction Milestone (Approve Contract)							12/01/19
<b>FUNDING (Allocated amounts are shaded)</b>							
<b>Component</b>	<b>Fiscal Year</b>	<b>SHOPP</b>					<b>Total</b>
PA&ED	17/18	5,149					5,149
PS&E	17/18	6,799					6,799
RW Support	17/18	170					170
Const Support	18/19	7,600					7,600
RW Capital	18/19	890					890
Const Capital	18/19	68,200					68,200
Total		88,808					88,808

## Supplemental Project Scope Summary Report (Roadway Rehabilitation)

### For Project Approval

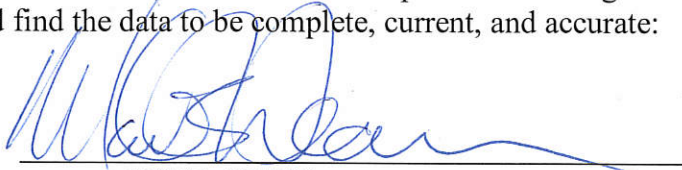
On Route 101

Between Limerick Lane O.C.

And Route 101/128 Separation

I have reviewed the right-of-way information contained in this report and the Right-of-Way Data Sheet attached hereto and find the data to be complete, current, and accurate:

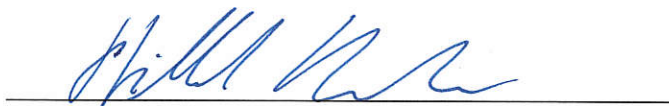
APPROVAL RECOMMENDED:



MARK L. WEAVER  
DEPUTY DISTRICT DIRECTOR  
RIGHT OF WAY AND LAND SURVEYS



BETCY JOSEPH  
REGIONAL PROJECT MANAGER



HILLAL HAMDAN-  
ACTING OFFICE CHIEF, DESIGN NORTH COUNTIES

APPROVED:



HELENA "LENKA" CULIK-CARO  
DEPUTY DISTRICT DIRECTOR, DESIGN

April 19, 2018  
DATE

## Vicinity Map

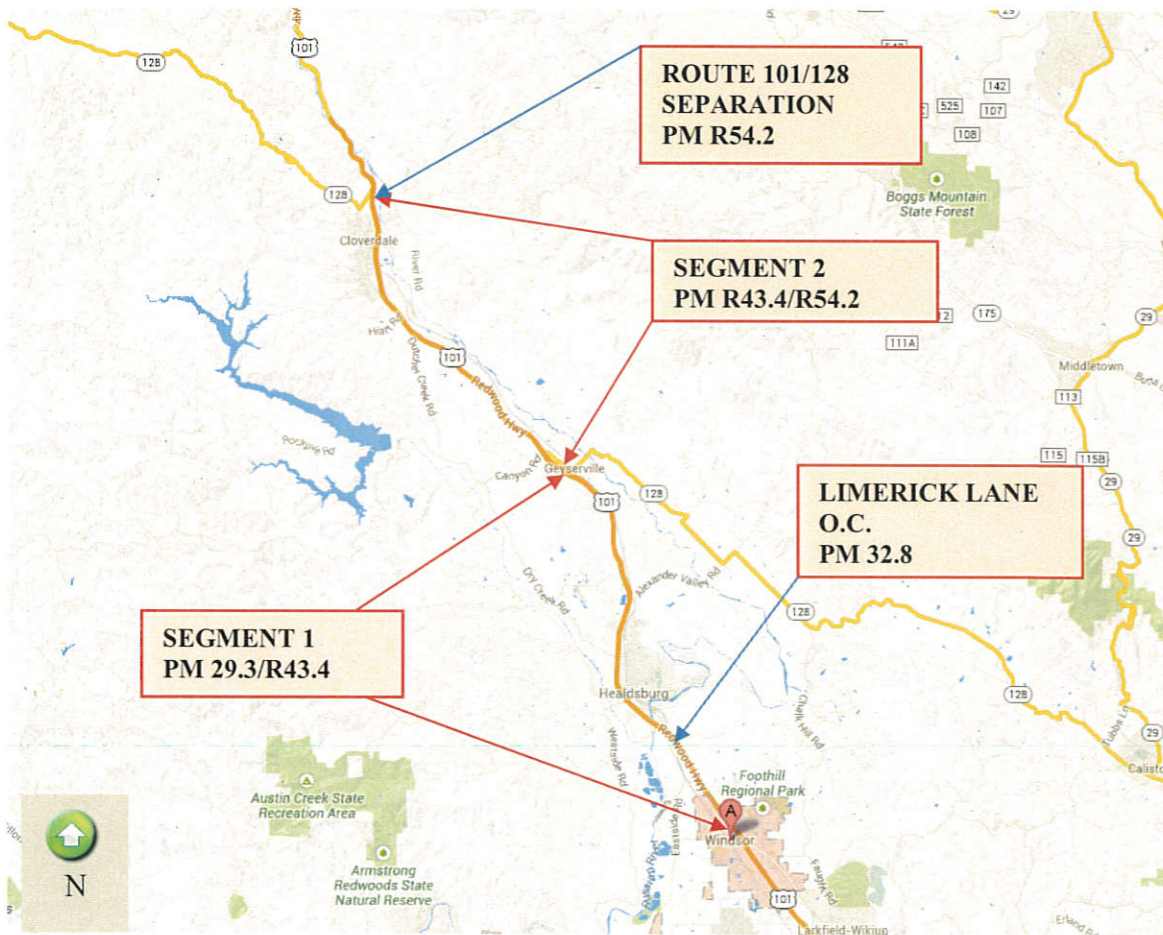


Figure 1

On Route US 101

Between LIMERICK LANE O.C. (PM 32.8) and ROUTE 101/128 SEPARATION (PM R54.2)

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

*Rodney J. Noda*

RODNEY J. NODA, REGISTERED CIVIL ENGINEER

*2-7-2018*

DATE



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## 1. INTRODUCTION

This Supplemental Project Scope Summary Report (SPSSR) provides scope, cost, schedule, and Environmental Determination/Document updates for Segment 2 of the original Project Scope Summary Report (PSSR), which was approved on June 12, 2014. This SPSSR only addresses topics that have changed since the original PSSR was approved. See Attachment A for the original PSSR cover page EA 0J640K.

The original PSSR (EA 0J640K) consisted of pavement rehabilitation (resurfacing and restoration [2R]) in both directions of Segment 1 from Windsor to Geyserville (postmile [PM] 29.3 to R43.4) and Segment 2 from Geyserville to Cloverdale (PM R43.4/R54.2). Due to funding limitations and community request to expedite the pavement rehabilitation, Segment 1 (EA 0J640) was programmed in the 2014 State Highway Operation and Protection Program (SHOPP) cycle for fiscal year (FY) 2015/2016 delivery with only pavement work. The culvert rehabilitation in the Segment 1 project limits was deferred to the Segment 2 (EA 0J642) scope. An SPSSR for Segment 1 (EA 0J640) was approved December 23, 2015, and is currently in construction.

### Project Description:

This project proposes 2R for the pavement of the mainline and ramps in both directions of Route 101 from Geyserville (PM R43.4) to the Route 101/128 separation near Cloverdale (PM R54.2). Culvert rehabilitation will be done from the Limerick Lane overcrossing (O.C.) (PM 32.8) in Segment 1 to the Route 101/128 separation near Cloverdale (PM R54.2).

<b>Project limits</b>	04-SON-101-PM 32.8 /R54.2
<b>Number of alternatives</b>	One
<b>Alternative recommended for programming</b>	Crack/seat and overlay (20-year pavement design) per LCCA
<b>Current capital outlay support estimate</b>	\$19.72 million
<b>Current capital outlay construction estimate</b>	\$68.20 million
<b>Current capital outlay right-of-way estimate</b>	\$890,000
<b>Funding source</b>	SHOPP 201.122
<b>Funding year</b>	2018/2019 (RTL)
<b>Type of facility</b>	Four-lane divided freeway
<b>Anticipated environmental determination or document</b>	Categorical Exemption (CEQA) / Categorical Exclusion (NEPA)

<b>Legal description</b>	In Sonoma County, on Route 101 from Limerick Lane O.C. to Route 101/128 separation
<b>Project development category</b>	Category 4

CEQA = California Environmental Quality Act  
 LCCA = Life-Cycle Cost Analysis  
 NEPA = National Environmental Policy Act  
 RTL = ready to list  
 SHOPP = State Highway Operation and Protection Program

## 2. RECOMMENDATION

It is recommended that this SPSSR be approved and authorization granted to proceed to the design phase.

## 3. SCOPE

The following proposed scope for Segment 2 plus additional scope for Segment 1 is as follows;

- Crack and seat the entire existing mainline (rigid pavement)(20 Year Design)
- Overlay the existing pavement mainline, including shoulders with Rubberized Hot Mix Asphalt–Open Graded (RHMA-O), Rubberized Hot Mix Asphalt–Gap Graded (RHMA-G), Hot Mix Asphalt–Type A (HMA-A), Paving Fabric, and Hot Mix Asphalt–Leveling Course (HMA-LC) (Note: RHMA-O and Paving Fabric replaces Open Graded Friction Course and Stress Absorbing Membrane Interlayer–Rubberized [SAMI-R], respectively from the original September 16, 2013, recommendation.)
- Work includes;
  - i. Grind and overlay (0.35-foot maximum) 21 on- and off-ramps
  - i. Replace failed slabs/pavement sections before cracking/seating
  - ii. Replace all existing asphalt concrete (AC) dikes
  - iii. Replace metal beam guardrail (MBGR) with Midwest guardrail
  - iv. Repair or replace culverts, down drain pipes, overside drains, ditches, and inlets and adjust drainage inlet grades
  - v. Upgrade guardrail connections to structures and all end treatments
  - vi. Replace crash cushions
  - vii. Install shoulder backing material
  - viii. Install shoulder rumble strips
  - ix. Update roadway signs
  - x. Remove magnetometers and replace with traffic loop detectors
  - xi. Replace eight Americans with Disabilities Act (ADA) curb ramps (at Central Cloverdale undercrossing [U.C.]

The following work is in addition to the 2015 Supplemental PSSR scope;

- Approximately 2,200 feet of concrete median barrier may be replaced. The existing concrete median barrier may be replaced if the overlay depth will make the effective barrier height non-standard.
- If found, Type E curbs (as shown on A87A in the 2015 Standard Plans) on the shoulders will be removed and 8-foot shoulders will be rebuilt.
- The cracks and joint seals in the bridge approach slabs will be repaired.
- Six bridge approaches/departures will be replaced because they are in poor condition. Five other bridge approaches/departures that are in fair condition will be evaluated during Plans, Specifications, and Estimate (PS&E) phase and may be replaced. The southbound approach and the northbound approach and departures at the Grant U.C. will be replaced. (The Grant U.C. approaches/departures were deleted from EA 0J640 due to conflict with the slope stabilization work in the vicinity that was part of EA 2J550.
- Overhead signs and panels will remain in place. Survey data indicate that all overhead signs within the project limits will meet minimum vertical clearance standards after the installation of the overlay.
- In Segment 1, 33 culverts require replacement, and 4 culverts do not require replacement. In Segment 2, 20 culverts require replacement, and 19 culverts do not require replacement. The remaining 76 culverts are being evaluated for replacement.
- Precast jointed concrete pavement will be placed at the bridge approaches and departures.
- Vegetation control will be placed beneath the Midwest guardrail system and the single and double thrie beam barriers.

#### **4. ENVIRONMENTAL DOCUMENT**

A Categorical Exemption (California Environmental Quality Act [CEQA]) and a Categorical Exclusion (National Environmental Policy Act [NEPA]) was approved on 04/17/2018 (see Attachment B).

#### **5. WATER QUALITY**

The project has a disturbed soil area of less than 1 acre. To comply with the conditions of the Caltrans National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CAS000003) and address the temporary water quality impacts resulting from the construction activities for this project, the construction activities need to comply with Standard Specifications 13-2, Water Pollution Control Program. These Standard Specifications address the preparation of a Water Pollution Control

Program (WPCP) document and the implementation of the WPCP during construction.

Best Management Practices (BMPs) need to be implemented to address the temporary water quality impacts resulting from the construction activities for the project. The BMPs to implement will include BMPs to address soil stabilization, sediment control, wind erosion control, tracking control, non-storm-water management, and waste management/materials pollution control. Appropriate BMPs and the relevant quantities need to be developed during the PS&E phase. Permanent erosion control measures will also be implemented for the project to stabilize all the disturbed areas as a means of source control.

If a significant amount of groundwater is encountered in the deep excavations, dewatering may be required. As part of the Hazardous Waste Site Investigation, groundwater testing may be required to determine the contamination levels to develop contract provisions for its handling and disposal during construction.

The project will require the Regional Water Quality Control Board's Section 401 certification, identification of temporary and permanent impacted areas, and mitigation for the permanent impacted areas.

## 6. RIGHT-OF-WAY

### Right-of-Way and Utilities

- General: A Right-of-Way Data Sheet has been prepared for the project based on the scope of work and the maps provided by the Project Engineer. Estimated cost information is provided in the Right-of-Way Data Sheet in Attachment C. Temporary construction easements will be required for the culvert replacement work at Limerick Lane and Geyserville Avenue. No additional right-of-way acquisition is anticipated at this time.
- Utilities: Verifications of utilities and potholing will be required. No utility relocations are anticipated.

## 7. VALUE ANALYSIS

Federal law requires that all projects on the National Highway System (NHS) and Interstate highways with a total cost (construction, right-of-way, and support) of \$50 million or more must have a Value Analysis (VA) study conducted before construction. A VA study was conducted February 26 to March 1, 2018. The study recommended a number of improvements. A discussion of these is as follows:

**1.0 Repair five existing deep culverts by cleaning out the culvert using a vacuum method and then inserting a new culvert liner.**

The main benefit of this concept would be to reduce boring costs and reduce access road construction. Environmental impacts would also be reduced because there would be less disturbance and removal of trees.

This concept was accepted and will be implemented where appropriate during the PS&E phase.

**2.0 Eliminate pre cast panels that are placed before the bridge approach slabs and use regular pavement structural section.**

The main benefit of this concept is reduced construction costs. There will be an additional one month of construction time needed to place and cure the reinforced concrete. There is a concern about roadway closures needed to place the reinforced concrete; however, this work may be able to be fitted into expected closures for other work.

This concept was conditionally accepted as regular pavement structural section may not be feasible, but other methods such as roller compact concrete could be possible. This will be further evaluated during the PS&E phase.

**3.0 Repair six existing pavement problems**

This concept proposes to repair several existing areas where the pavement is degraded due to water and soil issues.

This concept was rejected as one of the work locations is already included in the project. And the remaining locations are beyond the scope of work, will require additional studies, will require additional funds, and will cause schedule delays.

**8. LIFE CYCLE COST ANALYSIS (LCCA)**

A Life Cycle Cost Analysis (LCCA) was completed as part of the original PSSR and recommended a 20-year design life pavement. In November 2017, the Highway Design Manual was updated to include a 40-year design option. A 40-year design life would require an overlay thickness greater than 0.50'. This would require slope reconstruction instead of the proposed shoulder backing as shoulder backing greater than 0.50' creates constructability and maintenance concerns. The slope reconstruction would increase environmental impacts and construction costs. For

these reasons it was determined to continue using the 20-year design life as proposed by the original LCCA.

## 9. PROJECT ESTIMATE

### Cost Estimate

The following table shows the cost estimate for the 20-year design life of the project—Alternative 1: Crack and Seat (20-Year Pavement Design) with hot mix asphalt (HMA-A) overlay.

<b>Pavement Work</b>	<b>Output Lane Miles</b>	<b>Estimate (\$) Alternative 1</b>
Total lane-miles of rehabilitation	43.6	—
Crack and seat and flexible overlay of pavement (recycle not included) <sup>(1)</sup>	—	\$31,545,280
Reconstruct lane(s)	—	—
Crack seal and flexible overlay of rigid pavement	43.6	—
Rigid pavement rehabilitation* (list appropriate work type: grind, slab replacement, spall repair, grout and seal random cracks, lane replacement, joint seal, etc.)	Slab replacement	\$1,286,792
Ramps (21 ramps)	9.24	\$1,586,792
Shoulder backing	—	\$718,397
Repair bridge approach slabs and joint seals; construct band slabs and precast panels	—	\$1,870,000
<b>Subtotal</b>	—	<b>\$37,007,261</b>
Notes: 1. Includes cost to remove and replace localized failed areas. * Materials recommended assumption: replace 10 percent of existing rigid pavement.		
<b>Specialty Item</b>		
<b>Subtotal</b>		
<b>Does the project include?</b>	<b>Yes/No</b>	<b>Cost</b>
Mainline widening (lanes and/or shoulders)	No	—
Bridge widening and rail upgrade	No	—

Included in project		
Bridge rail upgrade—without widening Included in project	No	—
Vertical clearance adjustment (overhead signs)	No	—
Drainage rehabilitation (repair/replace corrugated metal pipe, adjust inlets, replace inlet depressions, temporary water pollution control, etc.)	Yes	\$4,021,150
Pedestrian facilities ADA curb ramps	Yes	\$238,939
Traffic control	Yes	\$1,218,589
Environmental	Yes	\$1,261,221
Vegetation control	Yes	\$521,893
Modify bridge barrier connections	Yes	\$377,274
Other (RE office, const. signs, R/W)	Yes	\$648,908
<b>Subtotal</b>	—	<b>\$8,287,974</b>
<b>Safety</b>		
Rumble strip	Yes	\$71,955
Superelevation/cross slope correction	No	—
Vertical alignment	No	—
Horizontal alignment	No	—
Left/right-turn storage/widening/lengthening	No	—
Sign upgrade (roadside sign panels)	Yes	\$10,000
Median barrier Thrie beam	Yes.	\$153,951
Midwest guardrail system (new)	Yes	\$1,350,419
Terminal system	Yes	\$491,974
Transition Railing	Yes	\$343,043
Striping, markers	Yes	\$938,138
Crash cushion	Yes	\$602,418
Electrical	Yes	\$2,530,154
Electroliers	No	—
Remove and replace Type E curb with 8-foot shoulder	TBD	—
Remove and replace concrete median barrier	Yes	\$317,944

<b>Subtotal</b>	—	<b>\$6,809,996</b>
<b>Roadside Management</b>		
Gore area pavement	No	—
Pavement beyond gore area	No	—
Miscellaneous paving (HMA dike)	Yes	\$356,307
Maintenance vehicle pull-outs	No	—
Off-freeway access (gates, stairways, etc.)	No	—
Roadside facilities	No	—
<b>Subtotal</b>		
	—	<b>\$356,307</b>
<b>Totals</b>		
Pavement Work subtotal	—	\$37,007,261
Specialty Item subtotal	—	\$8,287,974
Safety subtotal	—	\$6,809,996
Roadside Management subtotal	—	\$356,307
Sum of subtotals	—	\$52,461,538
20% contingency	—	\$10,492,308
10% mobilization	—	\$5,246,154
<b>Total Project Estimate</b>	—	<b>\$68,200,000</b>

Notes:  
 ADA = Americans with Disabilities Act of 1990  
 CMP = corrugated metal pipe  
 HMA = hot mix asphalt  
 OH = overhead  
 R/W = right-of-way  
 RE = Resident Engineer  
 TBD = to be determined  
 — = not applicable



## 10. FUNDING/PROGRAMMING

This project is eligible for Federal-Aid funding. Funding for this project will be from SHOPP Pavement Preservation, Program Code 201.122.

Fund Source: 20.50.201.122	Fiscal Year Estimate							
	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021	Total
Component	In thousands of dollars (\$1,000)							
PA&ED support					\$5,149			\$5,149
PS&E support					\$6,799			\$6,799
Right-of-way support					\$170			\$170
Construction support					\$7,600			\$7,600
R/W capital					\$890			\$890
Construction capital					\$68,200			\$68,200
Grand total					\$88,808			\$88,808

Notes:

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

R/W = right-of-way

The support cost ratio is 28.5%.

## 11. SCHEDULE

Project Milestones		Milestone Date	Milestone Delegation (Target/Actual)
PA&ED	M200	6/30/18	Target
PS&E	M380	3/1/19	Target
Right-of-way certification	M410	6/20/19	Target
Ready to list	M460	6/28/19	Target
Award	M495	10/1/19	Target
Approve contract	M500	11/1/19	Target
Contract acceptance	M600	12/30/21	Target
End project	M800	12/30/22	Target

Notes:

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

## 12. RISKS

The currently identified risks correlated with the development and management of this project and the associated mitigation measures are listed and described in Attachment D.

## 13. PROJECT PERSONNEL

Robert Camargo, Program Advisor	510-286-4450
Betsy Joseph, Regional Project Manager	510-286-5097
Katie Yim, Sr. TE, Traffic Safety	510-286-4578
Brian Barber, TE, OES, Materials B	510-622-5490
Jonathan Lee, Senior Designer	510-286-4684
Rodney Noda, Project Engineer	510-286-4493
Stefan Galvez-Abadia, Office Chief, Env. Analysis	510-867-6785
Kathleen Reilly, Sr. Hydraulics Engineering	510-286-4860
Sunnie Stanton, Sr. Right of Way Agent	510-286-5476

## 14. ATTACHMENTS (number of pages)

Attachment A	Original PSSR cover page EA OJ640K (approved 6/12/2014) (1)
Attachment B	Categorical Exemption (CEQA)/Categorical Exclusion (NEPA) (3)
Attachment C	Right-of-Way Data Sheet (6)
Attachment D	Risk Management Plan (3)

## Attachment A

**Project Scope Summary Report  
(Roadway Rehabilitation)**

**Request Programming in the 2014 SHOPP**

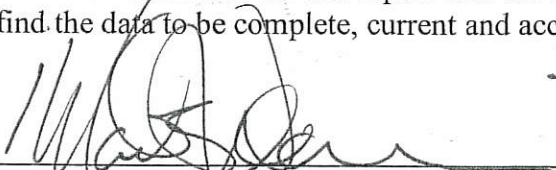
On Route US 101

Between WINDSOR

And 2 MILES SOUTH OF MENDOCINO OF COUNTY LINE


I have reviewed the right of way information contained in this report and the Right of Way Data Sheet attached hereto, and find the data to be complete, current and accurate:

APPROVAL RECOMMENDED:

  
MARK L. WEAVER  
DEPUTY DISTRICT DIRECTOR  
RIGHT OF WAY AND LAND SURVEYS

  
BETCY JOSEPH  
REGIONAL PROJECT MANAGER

APPROVED:

  
BIJAN SARTIPI  
DISTRICT DIRECTOR

6-12-14  
DATE

## Attachment B

**CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM**

<b>04-SON-101</b> Dist.-Co.-Rte. (or Local Agency)	<b>32.8-54.2</b> P.M./P.M.	<b>04-0J642</b> E.A/Project No.	<b>0414000476</b> Federal-Aid Project No. (Local Project)/Project No.
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**PROJECT DESCRIPTION:** (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. Use Continuation Sheet, if necessary.)

Caltrans as the lead agency for National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), is proposing roadway improvements for approximately 25 miles of State Route 101 (SR 101) from the community of Windsor to the community of Cloverdale in Sonoma County, California. Segment 1 extends from Windsor to Geyserville from Post Mile (PM) 29.3 to 43.4 and Segment 2 extends from Geyserville to Cloverdale from PM 43.4 to 54.3. The purpose of the project is to enhance the ride quality and reduce the delay to motorists due to repeated lane closures for pavement repairs, reduce Caltrans Maintenance workers' exposure to traffic, and to extend the service life while maintaining the structural integrity of the existing pavement. The project is expected to add 20 years of additional pavement life.

**CEQA COMPLIANCE** (for State Projects only)

Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply (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 by 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** (Check one)

- Not Applicable – Caltrans is not the CEQA Lead Agency       Not Applicable – Caltrans has prepared an Initial Study or Environmental Impact Report under CEQA
- 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 1c.** (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].)]

**Arnica MacCarthy**  
Print Name: Senior Environmental Planner or Environmental Branch Chief

**Betsy Joseph**  
Print Name: Project Manager

 4/17/18  
Signature Date

 4/17/18  
Signature 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:

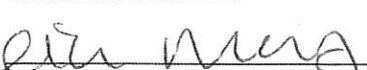
- does not individually or cumulatively have a significant impact on the environment as defined by NEPA, and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).


**CALTRANS NEPA DETERMINATION** (Check one)

- 23 USC 326:** The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an EA or EIS under the National Environmental Policy Act. 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 dated May 31, 2016, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:
- 23 CFR 771.117(c): activity (c)(26)**
- 23 CFR 771.117(d): activity (d)(\_\_\_)**
- Activity \_\_\_ listed in Appendix A of the MOU between FHWA and the State**
- 23 USC 327:** Based on an examination of this proposal and supporting information, the State has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

**Arnica MacCarthy**  
Print Name: Senior Environmental Planner or Environmental Branch Chief

**Betsy Joseph**  
Print Name: Project Manager/DLA Engineer

 4/17/18  
Signature Date

 4/17/18  
Signature Date

Date of Categorical Exclusion Checklist completion: 12/28/17      Date of ECR or equivalent : 12/28/17

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

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

Continued from page 1:

The need is to repair the poor roadway condition and to rehabilitate this section of SR 101 for continued use. Two areas outside of Caltrans right of way (ROW) require temporary construction easements (TCEs) on Lymerick and Geyserville streets. The TCEs are required to access the construction site. Roadway improvements include: Pavement rehabilitation (resurfacing, followed by crack/seat and overlay), Shoulder backing (porous material to protect the edge of pavement would extend 3-5 feet from the edge of pavement), Ramp Treatment (approximately 21 exit and entry ramps will be ground and paved) and Replacement of Traffic Loop Detectors in kind at the same location, including Bridge repairs, replacement of metal beam guard rail with Midwest Guardrail System (MGS) and vegetation control under the new guardrail system, Drainage and culvert replacement (approximately 62 culverts), including repair or replacement of culverts, adjustment of drainage inlets (DIs) to grade, replacing down drains, and sacking (pervious backfill material behind wall drain outlets), American Disability Act (ADA) curb-ramp improvements (approximately 8), Sign replacement (approximately 5), Rumble strips in the shoulder (in both the northbound and southbound direction on SR 101, in certain areas), Removal and replacement of mainline traffic sensors (count stations) to be replaced by traffic loop detectors, Upgrade census traffic count control station and other construction activities, including vegetation removal (for culvert work potentially one tree removal and tree trimmings, and for embankment reconstruction work) and Staging (to occur on the roadway with lane closures or on paved areas).

For construction: one riparian tree would need to be removed, potential additional tree removal may be required where jack/bore pits are proposed and other trees within the project vicinity would require trimming. Staging would be located within Caltrans right-of-way, but 2 culvert work areas require TCEs and Lymerick and Geyserville. Several ramps and sections of freeway would be closed during construction in the immediate vicinity. During road closures, traffic would be detoured using on and off ramps and side streets. There is potential for utility relocation. This project is estimated to take up to four construction seasons to complete, depending on the weather and rainy seasons.

**Avoidance and Minimization Measures (AMMs) and Project Features:**

**Cultural Project Feature:**

- If previously unidentified cultural materials are unearthed during construction, work shall be halted in the construction site until a qualified archaeologist (PQS) can assess the significance of the find.

**Water Quality Project Features:**

- Temporary Construction Site Best Management Practices (BMPs), such as drainage inlet protection, fiber rolls, silt fence, concrete wash-out, and street sweeping will be deployed for sediment control and material management.
- Permanent stormwater BMPs will be included as part of the project, which are anticipated to be bioretention swales or basins, and infiltration trenches.
- The disturbed soil area is greater than 1.0 acre, thus a stormwater prevention pollution plan (SWPPP) is required. A SWPPP must be prepared by the Contractor and approved by Caltrans.
- SWPPP BMPs would be implemented, including but not limited to: preventing vehicle pollutants from entering into storm drains and water courses, concrete and AC wastes are collected and properly disposed of, coir rolls or straw wattles that do not contain plastic or synthetic mono-filament netting will be installed at base of slopes to capture sediment.

**Water Quality AMMs:**

- Equipment used within 150 feet of culverts will be inspected on a daily basis for deleterious materials prior to use. A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be developed and kept on-site during construction and the appropriate materials and equipment will also be on-site during construction to ensure the SPCC Plan can be implemented.
- Maintenance and fueling of construction equipment and vehicles will occur at least 50 feet from the ordinary high watermark of creeks or the edge of wetlands.
- Falsework will be installed to keep bridge debris and construction materials from falling into streams during demolition, construction, and other activities.
- Water pumped from areas isolated from surface water to allow construction to occur in dry areas will be discharged to an upland area providing overland flow and infiltration before returning to stream.

**Biology Project Features:**

- Prior to the start of construction, high visibility fencing environmentally sensitive areas (ESA) fencing would be placed to delineate areas of sensitive habitat where physical disturbance is not allowed. ESA fencing will remain in place throughout construction.
- Surveys for nesting boards should be conducted prior to vegetation removal and/or construction, and the nesting season should be avoided. Nesting season extends approximately from February 1<sup>st</sup> to September 30<sup>th</sup>.

**Biology AMMs**

- Preconstruction surveys for special status species will be conducted at and around all creek work sites, including Foothill Yellow Legged Frog and Central California Coast Coho Salmon.
- Use of night lighting will be avoided to the extent practicable. Lights on work areas will be shielded and focused to minimize lighting of listed species habitat.
- Except for streams identified by National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), and CDFW as not supporting spawning habitat, all in-water activities will be conducted outside the spawning and incubation season for listed fish species, allowing work to occur June 15 through October 15. This will be determined in the Plans Specifications and Estimates Phase and will be documented within the USFWS, CDFW and NMFS permits.
- Vegetation cleared in the creek area will be mowed to a height greater than 4 inches. Soil compaction will be minimized by using equipment that could reach over sensitive areas, unintended soil compaction will be loosened after construction activities are completed. Where vegetation removal is temporary to support construction activities, native species will be re-established that are specific to the project location and that comprise a diverse community of woody and herbaceous plants.

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

<b>04-SON-101</b>	<b>32.8-54.2</b>	<b>04-0J642</b>	<b>0414000476</b>
Dist.-Co.-Rte. (or Local Agency)	P.M./P.M.	E.A/Project No.	Federal-Aid Project No. (Local Project)/Project No.

- A NMFS and CDFW approved fish biologist will be on site to observe de-watering activities and to capture/rescue any fish that are observed in an isolated area during dewatering activities.
- Cofferdams and diversion cofferdams will be limited to only what is necessary to complete construction or maintenance of the project.
- Construction equipment and vehicles will not operate in anadromous waters unless the channel is dewatered or otherwise dry. If the Caltrans biologist determines impacts of dewatering exceeds the impacts of equipment operating in the channel, relocation and exclusion of listed fish from the area will be implemented prior to operating in the wetted channel. This determination will occur in the field by the Caltrans biologist, and will be a permit condition.
- To the extent practicable existing roadways and stream crossings will be used. The total area affected by vehicle operations will be minimized to reduce damage to habitat.
- Where feasible cleaning of culverts and bridge abutments and piers, and placement of rock slope protection (RSP) and other bank protection will be from the top of the bank or bridge.
- If damage occurs to native vegetation, stream channel substrate, and large woody debris outside of the ESA limits, must be replaced/ restored.
- Large woody debris in the creek channels, identified by the biologist, will be retained and replaced if subject to damage. Woody debris not replaced on-site may be used for mitigation projects where feasible. Gravel and woody debris stockpiled for reuse in the channel will be stored to prevent mixing with steam flows.
- Where spawning gravel is removed temporarily to facilitate construction, it will be stored adjacent to the site then placed back in the channel post-construction at approximately pre-project depth and gradient.
- Bank stabilization will incorporate bioengineering solutions consistent with site-specific engineering requirements. Where RSP is necessary, native riparian vegetation and/or large woody debris in RSP will be incorporated. The embankment toe will not extend farther into the active channel than the existing embankment.
- Stream flow through new and replacement culverts, bridges, and over existing stream gradient control structures must meet the velocity depth, and other passage criteria for salmonid streams as described by the current NMFS and CDFW guidelines or as developed in cooperation with NMFS and CDFW to accommodate site specific conditions.
- Scour holes at the base of bridge piers or abutments and culvert inlets and outlets will be repaired by placing no more RSP than is necessary to mitigate the scour. Modified stream banks and riparian areas will be restored. Fish passage will be preserved according to NMFS and CDFW guidelines or developed in cooperation with NMFS and CDFW. Vegetation removed will be re-established with site specific native species.

**Hazardous Waste Project Features:**

- Sediment and debris removed from the roadway will be disposed of off-site, at an approved location.



## Attachment C

TO: Office of Design North Counties

Date 2/5/2018  
Dist 4 Co SON Rte 101  
PM 29.3/R54.2

Attention: JONATHAN LEE  
Senior Transportation Engineer

EA 0J142 (04-1400-0476)

From: ENID LAU  
Right of Way Resource Manager

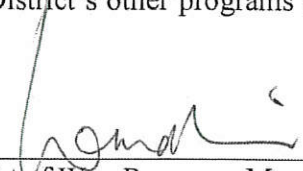
Big Pave 2 Windsor to Cloverdale  
D.S. # 6951

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 maps we received from you on December 5, 2017 and the following assumptions and limiting conditions.

- 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.
- 2. The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project.
- 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
- 4. This estimate does not include \$\_\_\_\_\_ right of way costs previously incurred on the project, which may affect the total project right of way costs for programming purposes.
- 5. We have determined there are no right of way functional involvements in the proposed project at this time, as designed.

Right of Way Lead Time will require a minimum of 18 months after we begin receiving final right of way requirements (PYPSCAN node No. 224), necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements (PYPSCAN node No. 265), we will require a minimum of 15 months prior to the date of certification of the project. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.

  
\_\_\_\_\_  
Right of Way Resource Manager

Attachments:

- Right of Way Data Sheet – Page One (always required)
- Right of Way Data Sheet – All Pages (required when interest in real property is being acquired)
- Utility Information Sheet
- Railroad Information Sheet

**RIGHT OF WAY DATA SHEET**

TO: Design North Counties

Date 1/31/2018 D.S. # 6951  
 Dist. 04 Co. Son Rte 101 PM 29.3/R54.2  
 EA 0J6422(0414000476)

ATTN: Jonathan Lee

Project Description: Rehabilitate Roadway

SUBJECT: Right of Way Data - Alternate No. \_\_\_\_\_

1. Right of Way Cost Estimate:

	Current Value (Future Use)	Escalation Rate	Escalated Value
A. Acquisition, including Excess Lands, Damages, and Goodwill	<u>\$44,000.00</u>	3 %/yr	<u>\$46,000.00</u>
Environmental Mitigation			<u>\$800,000.00</u>
Grantor's Appraisal Cost			<u>\$10,000.00</u>
B. Utility Relocation (State Share)	<u>\$15,000.00</u>	%	<u>\$15,000.00</u>
C. Railroad (from page 6)			<u>\$0.00</u>
D. Relocation Assistance	<u>\$20,000.00</u>	%	<u>\$20,000.00</u>
E. Clearance Demolition	<u>\$0.00</u>	%	<u>\$0.00</u>
F. Title and Escrow Fees	<u>\$0.00</u>	%	<u>\$0.00</u>
G. <u>TOTAL ESCALATED VALUE</u>			<u>\$891,000.00</u>
H. Construction Contract Work	<u>\$0.00</u>		
I. Railroad Phase 4 Costs	<u>\$0.00</u>		

2. Anticipated Date of Right of Way Certification 6/20/2019

3. Parcel Data:

Type	Dual/Appr	Utilities	RR Involvements	
X _____		U4-1 _____	None	<u>X</u>
A <u>1</u>		-2 _____	C&M Agrmt	_____
B <u>1</u>	_____	-3 _____	Svc Cont.	_____
C _____	_____	-4 _____	Design	_____
D _____	_____	U5-7 <u>5</u>	Const.	_____
E <u>XXXX</u>		-8 _____	Lic/RE/Clauses	_____
F <u>XXXX</u>		-9 _____	Misc R/W Work	
			RAP Displ	<u>1</u>
			Clear Demo	<u>0</u>
			Const. Permits	<u>0</u>
			Condemnation	<u>0</u>
Total <u>2</u>				

Areas: Right of Way \_\_\_\_\_  
 Enter PMCS Screens \_\_\_\_\_

No. Excess Parcels \_\_\_\_\_ Excess \_\_\_\_\_  
 By \_\_\_\_\_

4. Are there any major items of construction contract work?  
Yes  No  (If yes, explain)
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.   
There are two parcels required for this project. Both parcels are vacant agricultural land and both require a TCE.
6. Is there an effect on assessed valuation? (If yes explain)  
Yes  Not Significant  No
7. Are utility facilities or rights of way affected? Yes  No   
If yes, attach Utility Information Sheet Exhibit 01-01-05)
8. Are railroad facilities or rights of way affected? Yes  No   
If yes, attach Railroad Information Sheet Exhibit 01-01-06)
9. Were any previously unidentified sites with hazardous waste and/or material found?  
Yes  None evident   
(If yes, attach memorandum per Procedural Handbook Volume 1, Section 101.011)
10. Are RAP displacements required? Yes  No   
(If yes, provide the following information)
- No. of personal property relocations 1
- No. of single family \_\_\_\_\_ No. of business/non profit \_\_\_\_\_
- No. of multi-family \_\_\_\_\_ No. of farms \_\_\_\_\_
- Based on Draft / Final Relocation Impact Statement / Study dated \_\_\_\_\_, it is anticipated that sufficient replacement housing will / will not be available without Last Resort Housing.
11. Are material borrow and / or disposal sites required? Yes  No   
(If yes, explain)
12. Are there potential relinquishments / abandonments? Yes  No   
(If yes, explain)
13. Are there any existing and/or potential Airspace sites? Yes  No   
(If yes, explain)

14. Are there Environmental Mitigation costs? Yes  No

(If yes, explain)

Per Jonathan C. Lee, mitigation costs of \$800,000 are required for Oak and other riparian tree impacts and impacts to water.

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.)

PYPSCAN lead time (from Regular R/W to project certification) 18 months.

16. Is it anticipated that all Right of Way work be performed by CALTRANS staff?

Yes  No  (If no, discuss)

**Assumptions and Limiting Conditions**

- This data sheet was completed without a hazardous waste/materials report.
- Information on this data sheet was based on maps provided by Jonathan Lee on 12/5/2017

Evaluation Prepared By: Lynn White

Right of Way: Name Lynn White Date 2-1-18

Railroad: Name Paul C. [Signature] Date 2-1-18

Utilities: Name [Signature] Date 2/1/18  
For: KEANNA COOLINS

Recommended for Approval:

[Signature]  
Right of Way Capital Cost Coordinator

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

[Signature]  
Chief, R/W Appraisal Services

2.5.18  
Date

cc: Program Manager  
Project Manger

**UTILITY INFORMATION SHEET**

1. Utility owners located within project limits:  
PG&E, AT&T, Sewer, Cable and Water
2. Facilities potentially impacted by project (if known, include Owners(s) & facility type(s)):
3. Anticipated Workload:  
\_\_\_\_\_ Utility Verification required  
\_\_\_\_\_ Positive Identification  
\_\_\_\_\_ Utility Relocation  
\_\_\_\_\_ Other (Specify)
4. Additional information concerning anticipated utility involvements (include limiting conditions and a narative addressing likelihood that conflicts will occur);

\_\_\_\_\_ Involves possible relocation of electric transmission facilities  
(If X'd, Data sheet should be forwarded to environmental)

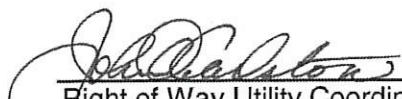
5. PMCS input information

- U4-1 \_\_\_\_\_ Owner Expense Involvements
- U4-2 \_\_\_\_\_ State Expense Involvements  
(Conventional, No Fed Aid)
- U4-3 \_\_\_\_\_ State Expense Involvements  
(Freeway, No Fed Aid)
- U4-4 \_\_\_\_\_ State Expense Involvements  
(Conventional or Freeway, Fed Aid)
  
- U5-7 5 Verifications - without involvements
- U5-8 \_\_\_\_\_ Verifications - 50% involvements
- U5-9 \_\_\_\_\_ Verifications resulting in involvements

NOTE: The sum of U-4's must equal the sum of 1/2 of the U5-8's and all of the U5-9's.

**ESTIMATED STATE SHARE OF COSTS** \$15,000.00

Prepared by: Keanna Coolins

  
Right of Way Utility Coordinator  
for: KEANNA COOLINS

2/1/18  
Date

## Attachment D



RISK REGISTER LEVEL	3	PROJECT NAME	Son-101 Roadway Rehabilitation From Windsor to Cloverdale (PM 29.3/54.3) Phase II				DIST- EA	04-0J642 0414000476	PROJECT MANAGER	Betsy Joseph		D4 RISK MANAGER	Patrick Treacy			TOTAL COST ( Capital +Support)	\$88,808,000.00						
PROJECT PHASE	PS&E	PDT MEMBERS	Design: Jonathan Lee, Str Design; Richard Melko, Hydraulics; Kathleen Reilly, Right of Way; Jim Murphy, Ping Tsai, Environmental; Eric Denardo, Archaeology; Douglas Bright, Geotech; Brian Barber, Surveying; Rich Ray, Thomas Finnegan				RISK ASSESSMENT										TOTAL DAYS ( Construction + Initial review (30days)+ Closeout (60 days))	590					
Risk Identification						Probability		Cost Impact (\$)				Time Impact (days)				P1/P3		C/S		Rationale		Risk Response	
Status	ID #	Category	Title	Risk Statement	Current status/assumptions	Prob Low	Prob High	Cost Low	Cost Most Likely	Cost High	Cost Probable	Low	Most Likely	High	Time Probable	P1/P3	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated	
Active	1	Construction	Inaccurate Survey Data	Actual field conditions could be different from the existing survey data used for design. This may require CCO's and redesign during construction, resulting in additional costs and time.	Field conditions could vary from design survey data.	0	20	\$62,500	\$100,000	\$125,000	\$9,583	0	7	15	1	P3	C	Based on past CT projects	Mitigate	Design to check survey info accuracy to minimize problem as much as possible during design phase. Additional costs will be covered under contingency funds.	RE/Rich Ray	1/14/2018	
Active	2	Design	Geotech Issues/Slope protection issues	Existing slope condition may require special geotechnical design/ slope protection measures resulting in additional cost.	If the profile of the roadway gets changed, then shoulder backing will need to be extended which will result in modifying the existing steep side slopes.	20	40	\$50,000	\$75,000	\$100,000	\$22,500	0	7	15	2	P1	C	Based on past CT projects	Accept	Check cross section and if needed request Geotech design as soon as possible during design	Brian Barber	1/14/2018	
Active	3	Env/Con	Paleontological Resources	Potential discovery of unforeseen paleontological resources during construction would impact schedule and possibly require mitigation at additional cost.	There is a remote chance of discovering paleontological resources on the project site.	0	20	\$0	\$10,000	\$20,000	\$1,000	0	5	10	1	P3	C	Based on previous CT projects.	Accept	If paleontological materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	Eric Denardo	1/14/2018	
Active	4	Env/Con	Nesting birds	Nesting birds, protected from harassment under the Migratory Bird Treaty Act, may delay construction during the nesting season. Any presence of migratory birds in the area would require the work to be deferred until the young birds have fledged.	Preconstruction survey to be done.	0	20	\$0	\$10,000	\$20,000	\$1,000	0	10	20	1	P3	C	Based on previous CT projects.	Mitigate	1) Schedule contract work to avoid the nesting season. 2) Install all necessary nesting deterrence measures.	Eric Denardo	1/14/2018	
Active	5	Env/Con	Cultural resources	Potential discovery of unforeseen cultural resources would impact schedule and possibly require mitigation at additional cost.	Potential discovery of cultural resources on the project site is possible.	0	20	\$0	\$100,000	\$200,000	\$10,000	0	10	20	1	P3	C	Based on input from Cultural	Accept	If any cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	Douglas Bright	1/14/2018	
Retired	6	Environmental	Federally listed species	Federally listed species (Sh. garter snake or red-legged frog) are observed at work site during construction. Work would have to be stopped leading to delays and costs.	Presence of federally listed species in the areas anticipated. Especially if we start work in October, when likelihood of presence of red-legged frogs is higher.	20	40	\$50,000	\$100,000	\$200,000	\$95,000	0	20	40	6	P1	S	Based on previous CT projects. Demobilization and Remobilization costs would occur if contractor is tasked to move operation to a different portion of the project and return later.	Mitigate	Preconstruction surveys will be conducted on the job and an environmental awareness training will be provided to the contractor's staff. Project extends over thirty miles, there is potential for work arounds. Issues are discovered early on in life of the project, when the contractor could be directed to work in another section of the project.	Eric Denardo	1/14/2018	
Active	7	Construction	Man-made buried objects	Unanticipated materials or buried man-made objects uncovered during construction require removal and disposal resulting in additional costs.	This project has some guard rail, drainage and culvert work.	20	40	\$100,000	\$150,000	\$200,000	\$45,000	0	3	5	1	P3	C	Based on the project Scope	Accept	Use contingency funds to cover this risk.	RE	1/14/2018	
Active	8	Environmental	Change or increase in Scope	If scope of work changes or footprint changes, re-validation may be done or a higher level environmental document must be done. Especially any addition of culvert work will need revalidation.	No scope change anticipated.	0	20	\$0	\$0	\$0	\$0	0	0	0	0	P1	S	Based on previous CT projects.	Avoid	Phase II work contemplated the need for Culvert work and Temporary Construction Easements and environmental permitting allowed the extra time for the more complex environmental document.	Eric Denardo	1/15/2018	
Active	9	Construction	Damage/Relocate utilities	High chance of hitting/damaging utilities running adjacent to or underneath the work area. Per Hydraulics there is potential of damaging the RCP pipes running under the pavement during the Crack and Seal method.	There is a good chance of damaging or breaking functional utilities.	40	60	\$1,000,000	\$1,250,000	\$1,500,000	\$625,000	20	40	80	23	P3	C	Based on previous CT projects.	Accept	Check the utilities locations during design phase and also call USA (underground service alert) during construction. For additional costs, use contingency funds to cover this risk.	RE	1/15/2018	
Active	10	Construction	Scope Increase or Scope Creep	Any additional work identified during construction but was not part of actual contract work will result in additional costs and time.	Potential scope creep includes additional Culvert work discovered and additional Loop detectors may need replacing.	20	60	\$200,000	\$1,000,000	\$2,000,000	\$426,667	30	45	60	18	P3	C	Based on previous CT projects.	Avoid	Try to minimize scope changes. Use contingency funds to cover this risk.	RE	1/15/2018	
Active	11	ROW	Acquisition/ R/W Cert Delayed	Project needs drainage easements and TCEs. This could take longer than anticipated, resulting in delays to the project.	Scope needing easements & TCEs were deferred from Phase 1 project (EA 0J640) and included in this project.	0	20	\$0	\$0	\$0	\$0	0	30	60	3	P1	S	Based on previous CT projects.	Avoid	This work was deferred from the Phase 1 project to allow time for R/W to secure access where needed.	Jim Murphy	1/15/2018	

RISK REGISTER LEVEL	3	PROJECT NAME	Son-101 Roadway Rehabilitation From Windsor to Cloverdale (PM29-3/54.3) Phase II		DIST- EA	04-0J642 0414000476	PROJECT MANAGER	Betsy Joseph	D4 RISK MANAGER	Patrick Treacy	TOTAL COST (Capital +Support)	\$88,808,000.00										
PROJECT PHASE	PS&E	PDT MEMBERS	RISK ASSESSMENT								TOTAL DAYS (Construction + Initial review (30days)+ Closeout (60 days))	590										
Risk Identification					Probability		Cost Impact (\$)				Time Impact (days)				P1/P3	C/S	Rationale	Risk Response				
Status	ID #	Category	Title	Risk Statement	Current status/assumptions	Prob Low	Prob High	Cost Low	Cost Most likely	Cost High	Cost Probable	Low	Most likely	High	Time Probable	P1/P3	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	12	Construction	Additional work due to the Crack and Seat method.	Some concrete slabs have AC overlay. Crack and seat method might be inefficient at these locations or might require additional work resulting in additional costs and time.	Project has some slabs with AC overlay. These slabs are part of crack and seat item. Contractor will have to remove the AC to see the condition of the slab and if needed pour rapid set mix and then do crack and seat.	20	40	\$300,000	\$450,000	\$600,000	\$135,000	0	15	30	5	P3	C	Based on input from Materials	Mitigate	PDT to identify locations with AC overlay on slabs and calculate for any inefficiencies possible. In case of this risk materializing in construction use contingency funds.	RE	1/15/2018
Active	13	Construction	Inefficiency/Productivity issues with pre-cast slabs.	Construction is concerned about the installation of pre-cast slabs, issues could arise with their stage construction. These issues might result in additional costs and time.	Construction anticipates that the pre-cast slab work may not be as efficient.	20	40	\$300,000	\$450,000	\$600,000	\$135,000	0	15	30	5	P3	C	Based on construction input.	Mitigate	Construction to keep a close watch on the pre-cast slab work and minimize any potential affects. In case of this risk materializing, use contingency funds.	RE	1/15/2018
Active	14	Construction	Asphalt price index fluctuation	Price of AC fluctuates and any fluctuation over and above what is covered in the supplemental funds will result in additional costs.	This risk is to cover any costs above and beyond the allocated supplemental funds.	20	40	\$50,000	\$100,000	\$150,000	\$30,000	0	0	0	0	P3	C	Based on previous CT projects.	Accept	\$600,000 has been allocated as part of supplemental funds. This risk is to cover any cost overages on top of the supplemental funds allocated.	RE	1/15/2018
Active	15	Construction	Weather	Paving operations need an ambient temperature. Cold and wet weather would delay the project and ultimately cost more.	Project will last two years and thus span two winter seasons.	20	40	\$0	\$0	\$0	\$0	20	30	40	9	P3	S	Based on previous CT projects.	Accept	PM and PE to look and forecast any potential weather days and allocate enough funds to cover them.	RE	1/15/2018
Active	16	Construction	Construction window & Traffic Control	Any tight construction windows and aggressive traffic control might not be achievable resulting in additional time.	Construction Team don't see an issue with construction windows.	20	40	\$0	\$0	\$0	\$0	10	30	50	9	P3	S	Based on previous CT projects.	Avoid	PM to talk to traffic and make sure the closure windows are doable.	RE	1/15/2018
Active	17	Design	Permits	Any changes to the scope might require additional time to obtain permits, resulting in additional time.	The project has numerous culvert replacement. If additional culvert replacements in environmentally sensitive areas are identified, permits could be delayed and also increase mitigation costs	0	20	\$0	\$0	\$0	\$0	0	90	180	9	P1	S	Based on PDT members.	Avoid	Hydraulics is developing repair strategies early on to identify culvert replacements and method of construction.	Eric Denardo	1/15/2018
Active	18	Construction	Thrie beams connections / Transition railing	Structure design were requested to redo the thrie beam connections and transition railings. Any modifications to this work in the field will result in additional costs and time.	Construction anticipates additional work.	20	40	\$0	\$75,000	\$150,000	\$22,500	0	0	0	0	P3	C	Based on PDT members.	Accept	Construction to tap into contingency in case of any changes in the field.	RE	1/15/2018
Active	19	Construction	Noise Levels	If the construction noise levels are in excess of local standards then the contractor or the department will have to come up with a method to curb the noise levels to meet the local agency standards.	The project being on 101 freeway PDT members see it as a risk.	20	40	\$300,000	\$450,000	\$600,000	\$135,000	0	10	20	3	P3	C	Based on past CT projects	Accept	PM and PE to look at the local standards and make sure that CT adheres to stricter standards.	RE	1/15/2018
Active	20	Organizational	Public Outreach	If the department is not able to educate the public about the use of the Crack and Seat method, there might be opposition during construction due to the noise levels resulting in delays.	This is to cover all additional funds required above and beyond the allocated funds for public outreach.	20	40	\$50,000	\$100,000	\$150,000	\$30,000	0	0	0	0	P3	C	Based on past CT projects	Avoid	PM to contact CT PIO and make sure that that all available outreach methods are used to avert any disruptions during construction. In case of this risk materializing, use contingency funds.	Betsy Joseph	1/15/2018
Active	21	Organizational	Bids may come in high	As a result of an improving economy, bids may come in high, which would lead to funding shortfall.	Project assumes the bids will be close to Engineers estimate.	0	20	\$0	\$3,000,000	\$6,000,000	\$300,000	0	0	0	0	P3	C	Based on input from PDT members	Accept	Engineers estimate were done to reflect most current bidding environment costs. Use G-12 funds for additional costs if risk occurs.	Betsy Joseph	1/15/2018
Active	22	Construction	Aerially Deposited Lead (ADL) material	Handling of ADL material from culvert excavation	ADL material can be mixed with clean soil and reuse as shoulder backing	20	40	\$50,000	\$100,000	\$250,000	\$40,000	0	0	0	0	P3	C	Based on PDT members input	Accept	Perform ADL testing by Haz Mat to develop specifications	RE	1/15/2018
Active	23	Construction	Allocation for unidentified risks	Contingency needs to be allocated (based on industry practice) for issues that are missed when identifying uncertain events.	Industry accepted practical recommendations for including "unknown unknowns" into probabilistic cost and schedule risk models are used.	80	100	\$341,000	\$682,000	\$1,364,000	\$716,100					P3	C	Size of "unknown unknown" allowances is dependent on the novelty of the project, stage of development of the project and type of industry.	Accept	Industry recommends that a standard project (i.e. low degree of novelty), should carry a 1% of capital cost allowance for unidentified risks, during the construction phase.	Betsy Joseph	1/15/2018
Active	24	Construction	Support Costs Due to weather days	When contractor is allocated a weather day. COS costs will be incurred to the department. This risk is to cover all COS incurred to the Department. There are no delay costs.	Standard weather days were anticipated by the design team.	80	100	\$0	\$322,034	\$644,068	\$289,831					P3	S	Based on CT historical data .	Accept	Based on CT historical data. Projects with similar working days have an average of 0%- 10% of project working days.	Betsy Joseph	1/15/2018
Active	25	Design	COS costs due to delay	Additional support costs will be needed if the project is delayed during design phase. Cumulative costs of all Design risks.	These are Unanticipated COS costs expended by the design team due to changes and delays to the project.	100	100	\$0	\$106,061	\$212,121	\$106,061					P1	S	This is cumulative of all the active risks with "P1" in column Q	Accept	See individual responses to the various design risks that have schedule impacts.	Betsy Joseph	1/15/2018

RISK REGISTER LEVEL	3	PROJECT NAME	Son-101 Roadway Rehabilitation From Windsor to Cloverdale (PM29.3/54.3) Phase II				DIST- EA	04-0J642 0414000476	PROJECT MANAGER	Betsy Joseph		D4 RISK MANAGER	Patrick Treacy			TOTAL COST ( Capital +Support)	\$88,808,000.00					
PROJECT PHASE	PS&E	PDT MEMBERS	Design: Jonathan Lee, Str Design: Richard Melko, Hydraulics: Kathleen Reilly, Right of Way: Jim Murphy, Ping Tsai, Environmental: Eric Denardo, Archaeology: Douglas Bright, Geotech: Brian Barber, Surveying: Rich Ray, Thomas Finnegan				RISK ASSESSMENT										TOTAL DAYS ( Construction + Initial review (30days)+ Closeout (60 days))	590				
Risk Identification						Probability		Cost Impact (\$)				Time Impact (days)			P1/P3	C/S	Rationale	Risk Response				
Status	ID #	Category	Title	Risk Statement	Current status/assumptions	Prob Low	Prob High	Cost Low	Cost Most likely	Cost High	Cost Probable	Low	Most likely	High	Time Probable	P1/P3	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	26	Design	Indirect costs of Project Design/RTL Delay: (Mostly Escalation Costs)	If the project gets delayed in Design phase, RTL will be delayed resulting in Escalation of project costs. This is cumulative of all costs due to delay of RTL.	Escalation costs of 0-5%/year is assumed for projects that get delayed in design phase.	100	100	\$0	\$64,484	\$257,936	\$107,473					P1	C	This is cumulative of all the active risks with "P1" in column Q	Accept	See individual responses to the various design risks that have schedule impacts.	Betsy Joseph	1/15/2018
Active	27	Construction	COS costs due to delay	Cumulative costs of additional Construction COS needed due to delays in construction phase.	These are Unanticipated COS costs expended by the Construction team due to changes and delays to the project.	100	100	\$0	\$661,243	\$1,322,486	\$661,243					P3	S	This is cumulative of all the active risks with "P3" in column Q	Accept	See individual responses to the various construction risks that have schedule impacts. In case of this risk materializing, in construction use G-12 support funds.	Betsy Joseph	1/15/2018
Active	28	Construction	Indirect costs of Project Construction: (TRO & TRO+ & Escalation)	Cumulative costs of delays due to any of the other risk items occurring in construction phase. these are the indirect costs associated with occurrence of any of identified risks causing a construction delay.	Has CO delay costs (TRO, TRO+ and Escalation Costs) Escalation = 0-5%/Year, TRO=10% of Capital Costs/Year TRO+ = 5% of Capital Costs/year	100	100	\$0	\$1,404,942	\$1,769,604	\$1,054,849					P3	C	This is cumulative of all the active risks with "P3" in column Q	Accept	See individual responses to the various construction risks that have schedule impacts. In case of this risk materializing, use contingency funds.	Betsy Joseph	1/15/2018