ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
RIV-10 Blythe Pavement Rehab Project (08-1C081)

Resolution _____
(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 *RIV-10 Blythe Pavement Rehab Project (08-1C081)*, effective on, _____(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 May 13, 2020 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *RIV-10 Blythe Pavement Rehab Project (08-1C081)*, 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-20-40, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 05/13/2020
- ☐ 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

RIV-10 Blythe Pavement Rehabilitation Project (08-1C081)

Resolution SHOPP-P-2021-04B

Michael D. Beauchamp, District Director
California Department of Transportation

11/20/2020
Date

Toks Omishakin, Director
California Department of Transportation

1.7.21
Date

Mitch Weiss, Executive Director
California Transportation Commission

02/11/21
Date

Baseline agreement information was extracted from Caltrans' 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					**Date:**	10/02/20
District	**EA**	**Project ID**		**PPNO**	**Project Manager**	
08	1C081	0816000086		3008A	OCHOA, WIL	
County	**Route**	**Begin Postmile**	**End Postmile**	**Implementing Agency**		
RIV	10	R60.7	R74.3	PA&ED	Caltrans	
				PS&E	Caltrans	
				Right of Way	Caltrans	
				Construction	Caltrans	

Project Nickname

Riv 10 Coachella Pavement Rehab: Mainline, Shoulders, Ramps

Location/Description

In and near Coachella, from 0.3 mile east of Coachella Canal to 0.2 mile east of Hazy Gulch Bridge. Cold plane pavement and overlay with Portland Cement Concrete (PCC). Construct eastbound truck climbing lane. A one lane temporary detour will be constructed in the median for traffic handling. (G-13 Contingency)

Legislative Districts

Assembly:	56	**Senate:**	28	**Congressional:**	36

PERFORMANCE MEASURES

	Primary Asset	**Good**	**Fair**	**Poor**	**New**	**Total**	**Units**
Existing Condition	Pavement	11.3	37.5			48.8	Lane-miles
Programmed Condition	Pavement	48.8				48.8	Lane-miles

Project Milestone	**Actual**	**Planned**
Project Approval and Environmental Document Milestone	9/17/20	
Right of Way Certification Milestone		09/01/21
Ready to List for Advertisement Milestone		06/01/21
Begin Construction Milestone (Approve Contract)		07/11/22

FUNDING (Allocated amounts are shaded)

Component	**Fiscal Year**	**SHOPP**					**Total**
PA&ED	17/18	7,000					7,000
PS&E	20/21	10,000					10,000
RW Support	20/21	90					90
Const Support	21/22	22,000					22,000
RW Capital	21/22	13,991					13,991
Const Capital	21/22	157,000					157,000
Total		210,081					210,081

08-Riv-10-PM R60.7/R74.3
EA 1C081
Project No. 0816000086
PPNO 3008A
201.122-(HA22)
September 2020

Project Report
For Project Approval

On Route 10

From 1.8 miles east of Dillon Road Interchange

To 2.0 miles east of Cactus City Rest Area

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:

Rebecca Guirado
CS REBECCA GUIRADO, Deputy District Director, Right of Way

APPROVAL RECOMMENDED:

MF Wil Ochoa
WIL OCHOA, Project Manager

DAVID BRICKER, Deputy District Director, Environmental Planning

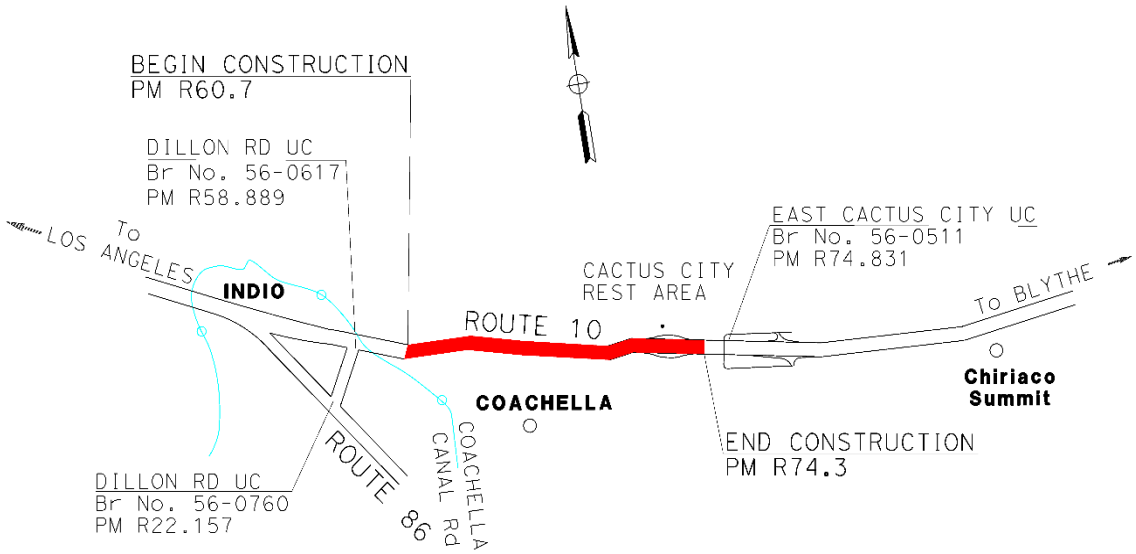
Jamal Elsaleh
MA JAMAL ELSALEH, Deputy District Director, Design

HG CATALINO A. PINING III, Deputy District Director, Traffic Operations

APPROVED:

MICHAEL D. BEAUCHAMP, District Director — DATE 9/17/2020

Vicinity Map



On Route 10

From 1.8 miles e/o Dillon Road Interchange at PM R60.7

To 2.0 miles e/o Cactus City Rest Area at PM R74.3

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

Diboro Kanabolo

DIBORO KANABOLO, REGISTERED CIVIL ENGINEER

08/28/2020

DATE

Prepared By:

Fred Asef

Fred Asef
Project Engineer
Design O

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1. INTRODUCTION

Project Description:

It is recommended to rehabilitate a portion of Interstate 10 (I-10), in Riverside County, from 1.8 miles east of Dillon Road Interchange, PM R60.7 to 2.0 miles east of Cactus City Rest Area PM R74.3 (Attachment A). The scope of work primarily consists of rehabilitation of existing Asphalt Concrete (AC) pavement and constructing a truck climbing lane on the entire eastbound (EB) roadbed using the following construction strategy:

- Cold plane existing AC pavements on the mainline and shoulders 0.2 feet. The resulting surface will be overlaid with 0.2 feet Hot Mix Asphalt (HMA) and one-foot Jointed Plain Concrete Pavement (JPCP) [also known as Concrete Overlay Over Asphalt (COOA)] on the mainline and shoulders. This strategy will result in raising the profile grade by approximately one foot (Attachment B).

- To maintain existing traffic during construction, a temporary detour with crossovers in the existing median will be constructed. All associated bridges will be widened in the median to accommodate the proposed detour. There is no viable alternate detour route for this segment of I-10.

- The various Rehabilitation Strategies considered are shown below in Table 1.1

Table 1.1

Rehabilitation Strategies with Detour (widen on Both EB and WB Roadbeds)					
Strategy ID	I-10 Roadbed	Rehabilitation Strategy	Cost ($1000)		Total ($1000)
			Roadway	Structures	
A*	EB	JPCP (COOA) (40-Yr)	59,795	18,705	157,000
	WB	JPCP (COOA) (40-Yr)	59,795	18,705	
B	EB	CRCP (COOA) (40-Yr)	91,400	18,705	220,210
	WB	CRCP (COOA) (40-Yr)	91,400	18,705	
C	EB	JPCP Reconstruction (40-Yr)	87,770	18,705	212,950
	WB	JPCP Reconstruction (40-Yr)	87,770	18,705	
D	EB	JPCP (COOA) (40-Yr)	81,950	18,705	168,740
	WB	HMA (20-Year)	49,380	18,705	
E	EB	CRCP (COOA) (40-Yr)	90,088	18,705	177,370
	WB	HMA (20-Year)	49,872	18,705	
F**	EB	HMA (20-Year)	34,900	0	69,800
	WB	HMA (20-Year)	34,900	0	
G	EB	CRCP Reconstruction (40-Yr)	91,400	18,705	212,530
	WB	JPCP (COOA) (40-Yr)	83,720	18,705	

EB = Eastbound **10 Page Cost Estimate is attached*

WB = Westbound

CRCP = Continuously Reinforced Concrete Pavement ***No detour required*

This project will also cold plane and overlay all the ramps and parking area at Cactus City Rest Area with Rubberized Hot Mix Asphalt Type G (RHMA-G). It also includes other improvements such as, replacing and upgrading existing Metal Beam Guardrails (MBGR) to current design standards, extending culverts in the median, upgrading bridge railings, and repair/replace bridge abutment Rock Slope Protection (RSP) affected by the bridge widening. A full Clear Recovery Zone (CRZ) will be provided in the median with slope of 4:1 or flatter. Electric vehicle charging stations will be installed at Cactus City Rest Area with two on EB and two on the WB directions.

This project is classified as a Category 4B project, as defined in the Project Development Procedures Manual (7th Edition, Part 2, Chapter 8, Section 5), since the proposed improvements under consideration would not require additional right of way and does not substantially increase traffic capacity (Attachment C). The current construction cost for the proposed improvements is estimated to be $157,000,000 (Attachment D).

Table 1.2

Project Limits	08-Riv-10 PM R60.7/R74.3	
Number of Alternatives	2	
	Current Cost Estimate	***Escalated Cost Estimate**
Capital Outlay Support	$39,090,000	NA
Capital Outlay Construction	$157,000,000	NA
Capital Outlay Right of Way	$10,000	NA
Funding Source	20.XX.201.122	
Funding Year	2021/2022	
Type of Facility	4 Lane Freeway	
Number of Structures	9 Bridges each direction	
SHOPP Project Output	48.8 Lane Miles	
Environmental Determination or Document	Initial Study with Mitigated Negative Declaration / Environmental Assessment with Finding of No Significant Impact.	
Legal Description	From 1.8 miles east of Dillon Road Interchange (PM R60.7) to 2.0 miles east of Cactus City Rest Area (PM R74.3)	
Project Development Category	4B	

* No cost escalation, this is a Design Build project to be RTL by June 30, 2021.

2. RECOMMENDATION

It is recommended that this Project Report (PR) be approved for preferred Alternative 2, Rehab Strategy A and authorization be granted to proceed with preparation of Plans, Specifications and Estimates (PS&E).

3. BACKGROUND

A. Project History

This project originated from Project Initiation Proposal (PIP) No. 3820, which was initiated and prepared by the District 8 office of Maintenance Engineering in March 2012 (Attachment E). The original scope of work included pavement rehabilitation of the mainline, shoulders, and ramps on I-10 from PM R134.0 to PM R145.2.

Subsequently, during preparation of the Project Initiation Report (PIR) for EA 1C080, the project limits were extended westerly to PM R60.7 and easterly to PM R156.5 and divided the limits into three segments as shown in the table below:

Table 3.1 – Project Segments

Segment	EA	Status	PM	Funding Year
1	1C081	PA/ED 9/17/2020	R60.7/R74.3	2021/2022
2	1C082	RTL 6/11/2020	R104.9/R134.0	2019/2020
3	1C083	PA/ED 8/28/2020	R134.0/R156.5	2021/2022

The PIR for all three segments was approved on June 29, 2017. This PR is prepared for Segment 1. The other segments have separate PRs. In an effort to balance the delivery of projects in different fiscal years, the District in conjunction with the Department chose to deliver this project using Design Build process. This allows the delivery of this project to be advanced by a year. As of June 2020, Segment 1 is designated for the Design-Build delivery process with funding commitment and delivery in the 2022 fiscal year. All three segments have a similar scope of work and the Project Development Team (PDT) agreed to conduct a 0 Phase and 60% Constructability Review (CR) Joint Field Meeting for Segment 1 during 95% CR of Segment 2.

B. Community Interaction

Caltrans makes it a priority to engage the public, stakeholders, the media and others on any project that the Department is developing. This includes holding and attending public meetings, meeting with partner agencies, sending out virtual notifications via social media and email, and more.

Caltrans District 8 External Affairs will develop a comprehensive outreach plan from start to finish to ensure that the public and our partners are aware of the project and it's impacts. As stated, this will include multiple facets including social media, email campaigns, public meetings, focused meetings with partners, and more. These efforts will ensure an equitable deliverable process by incorporating the input from those who are within the project limits.

Throughout the development of this document an emphasis has been placed on keeping the community and local stakeholders informed of the scope and potential

impacts of this project. Coordination with several agencies occurred in conjunction with preparation of the environmental document and technical reports. These agencies include US Army Corps of Engineers, Coachella Valley Conservation Commission, Native American Heritage Commission, US Fish and Wildlife Service, and California Department of Fish and Wildlife.

A public notice advertising Caltrans' intent to adopt a Mitigated Negative Declaration with Opportunity for Public Hearing was published in the Desert Sun, a newspaper of general circulation, on February 7, 2020. Additionally, notices were sent to all entities including public agencies, interested parties, property owners and occupants within 500 ft of the project boundary. The document was available for public review and comments for thirty (30) days. Comments were received and have been addressed in the Final Environmental Document. There is no known opposition to the proposed project from local agencies and/or the general public.

C. Existing Facility

Interstate 10 is a major interstate freeway that begins at State Route 1 in the City of Santa Monica in Los Angeles County and terminates on the east coast in the State of Florida. Within District 8, I-10 is 194.8 miles in length, beginning at the Los Angeles County line and ending at the Arizona State line; it varies from four to ten lanes of traffic. Existing pavement on I-10 within the limits of this project is a flexible pavement section with similar shoulder pavement. Within the project limits I-10 is a four-lane divided, controlled-access freeway with two lanes in each direction. The existing lane width is generally 12 feet throughout the corridor. Within the project limits the outside shoulder width is 10 feet and inside shoulder width is 5 feet.

This segment of freeway generally lies on gentle rolling terrain. The EB and WB roadbeds are typically at different elevations separated by a median width that varies from 90 to 210 feet. The pavement of each roadbeds typically has a 2.0% cross slope with the crown point located at the inside edge of travel way.

Table 3.2 – Roadway Geometric Information

		Existing	Proposed	Minimum Standards
Facility Location	Post Mile Limits	PM R60.7/R74.3	PM R60.7/R74.3	N/A
Minimum Curve Radius	Radius (ft)	3,025	3,025	2100
Through Traffic Lanes	Number of Lanes	4	5	N/A
	Lane Width (ft)	12	12	12
	Type (Flexible, Rigid, or Composite)	Flexible	Rigid	N/A
Paved Shoulder Width	Left (ft)	5	10	10
	Right (ft)	10	10	10
Median Width	(ft)	Varies 90-210	Varies 90-210	62

Project Interchanges

The project improvement passes through no existing interchanges. There is a project that proposes to construct a new interchange at Avenue 50 and I-10 in the City of Coachella in Riverside County under EA 45210 (PM R62.3-R63.7) with Construction Contract Acceptance (CCA) in winter 2023.

Existing Structures

Table 3.3 provides a list of existing structures along I-10 within the project limits from east to west.

Table 3.3 – Existing Structures

No.	Bridge Name	Direction	Bridge Number	Post Mile
1	Polaris Wash	EB/WB	56-0476R/L	R62.026
2	Echo Ditch	EB/WB	56-0475R/L	R62.619
3	Smoky Gulch	EB/WB	56-0201R/L	R63.648
4	Sunny Gulch	EB/WB	56-0202R/L	R66.184
5	Brown Arroyo	EB/WB	56-0204R/L	R68.285
6	West Cactus Wash	EB/WB	56-0460R/L	R72.934
7	Cactus Wash	EB/WB	56-0461R/L	R73.190
8	East Cactus Wash	EB/WB	56-0462R/L	R73.445
9	Hazy Gulch	EB/WB	56-0463R/L	R74.099

Existing Utilities

There are two (2) existing utilities within the project limits, namely, Southern California Edison (SCE) overhead electric and Frontier telephone lines. These utilities will not require any relocation.

Existing Drainage

The existing offsite drainage generally flows from north to south. Culverts and bridges are used to convey the offsite runoff under the freeway between water washes. The onsite drainage system consists of catch basin, storm drain system, and culverts.

Existing Pavement Structural Sections

Existing pavement within the project limits is comprised of Asphalt Concrete (AC) for the traffic lanes and shoulders (Attachment B).

Pavement Condition Report / Automated Pavement Condition Survey

The Pavement Condition Report history obtained from Office of Pavement Management (PaveM) online website that is periodically reviewed to evaluate the existing pavement condition is shown below:

As of the year (2019), the existing pavement surface condition varied from "fair" to "good." Average alligator cracks A and B were less than 12% and less than 6%, respectively. Mean Roughness Index (MRI) varied from less than 60 inch/mile to more than 235 inch/mile. In the year 2022, Alligator A and B cracks are anticipated to be 19% and 10%, respectively. MRI is anticipated to range from 60 inch/mile to greater than 300 inch/mile. Recent physical field review shows that following winter storms in early 2019, the EB pavement condition deteriorated significantly compared to the WB pavement. For detailed pavement condition reports refer to Materials Report (Attachment G).

Signs

Fourteen (14) Information signs, and eleven (11) Regulatory signs are identified within the project limits. Signs impacted by the project median widening will be replaced.

Existing Guardrail

Existing guardrail is predominantly not the Midwest Guardrail System (MGS) and will be upgraded to standards. The limits and quantities are shown in Tables 3.4 and 3.5.

Table 3.4 – Guardrail Length on Mainline

DIRECTION	From PM	To PM	Length (LF)
Eastbound	R62.63	R70.40	13,411
Westbound	R64.67	R73.84	8,817
Total			22,228

Table 3.5 – Guardrail Length on Bridge Approaches

Approach Railing (DIRECTION)	Total Number of Bridges	Length (LF)
Bridges (EB)	9	5089
Bridges (WB)	9	5089
Total		10,178

Pedestrian Facilities

There are existing pedestrian facilities at the Cactus City Rest Area within the project limits. Existing curb ramps meet current Americans with Disabilities Act (ADA) standards per Design Information Bulletin (DIB 82-06, "Pedestrian Accessibility Guidelines for Highway Projects") with respect to required dimensions, ramp slopes, cross-slope, landing and Detectable Warning Surface.

Bicycle Path Data

There are no known bicycle paths within the project limits however, this section of I-10 is open to bicycle traffic along the outside shoulders.

4. PURPOSE AND NEED

Purpose:

The primary purpose of this project is to restore and extend service life of existing pavement for a minimum of 40 years, enhance trip reliability, and consequently minimize expenditures associated with future maintenance. The secondary purpose is to improve safety and mobility for the traveling public by upgrading existing features to current design standards, such as MGS, bridge rails, drainage facilities, and pedestrian facilities.

Need:

This project is needed to address current and future deficiencies of the existing pavement and extend the service life within the project limits and minimize maintenance frequency and consequently worker exposure. Additionally, slow-moving freight vehicles currently travel along the EB general-purpose lanes, and impair traffic flow.

4A. Problem, Deficiencies, Justification

Under heavy and continuous traffic, over a period of time, existing pavement has shown signs of distress and deterioration at various locations along the freeway. As indicated in the Department's 2018 Pavement Condition Survey (PCS), there are areas of cracking, rutting, bleeding, and poor ride quality that are beyond routine maintenance repairs and treatments. By the year 2022, Alligator A and B cracks are anticipated to be 19% and 10%, respectively. This rehabilitation project will address further deterioration and would extend life of the existing pavement.

4B. Regional and System Planning

4B1. Identify System

Interstate 10 is a major freeway that starts in the City of Santa Monica in Los Angeles County and ends in Jacksonville, Florida. Within District 8, I- 10 begins at the Los Angeles/San Bernardino County Line, west of Montclair, and ends at the California/Arizona State Line, on the Colorado River. From the Los Angeles metropolitan area into the Coachella Valley, the route provides a means for regional commuter trips. East of the Coachella Valley, most trips are interstate, along with a substantial increase of trips related to goods movement. Interstate 10 is designated among the U.S. Department of Defense (DOD) 2,610-miles network of selected Interstate System routes requiring a 16-foot minimum vertical clearance. All of the overcrossing structures along the I-10 corridor meet the minimum vertical clearance requirement standard. Interstate 10 is a critical link in the State Transportation Network and is used by interstate travelers, local commuters, regional, interregional, and interstate trucks. It is also part of the National Highway System, providing access between major port, airport, public transportation facility or other intermodal transportation facility. The entire route is included in the National Network which was authorized by the Federal Transportation Surface Transportation Assistance Act of 1982 for conventional combinations.

4B2. State Planning

The project is consistent with the District 8, I-10 Transportation Concept Report, dated June 20, 2017, which calls for the year 2040 concept facility to provide four general purpose lanes. Construction duration within this segment of I-10 includes project EA 1C082, with an expected completion date of May 1, 2024.

4B3. Regional Planning

The project is consistent with the regional planning goals. The configuration of the existing roadway facility is not affected or impacted by this project. There is a project that proposes to construct a new interchange at Avenue 50 and I-10 in the City of Coachella in Riverside County under EA 45210 (PM R62.3-R63.7) with Construction Contract Acceptance (CCA) in Winter 2023.

4C. Traffic

4C.1 Current and Forecasted Traffic

Traffic Forecasting have been prepared for the project to analyze the existing (2020) and future years (2046, 2066) traffic conditions along the I-10 freeway. Traffic forecasting of the I-10 mainline, within the project study limits are summarized in the following sections and tables:

Table 4.1 – Existing, 2020 and 2066 Forecast Condition

Years	2020	2026	2046	2066
Annual Average Daily Traffic (AADT)	28,900	32,100	45,300	59,700
2-way Peak Hour Volume (PHV)	3,700	4,110	5,790	7,630
One-way PHV	2,000	2,220	3,130	4,120
Directional Split	54%	54%	54%	54%
Truck % in AADT	51%	51%	51%	51%
Truck % in PHV	30%	30%	30%	30%

Table 4.2 – Traffic Index

Traffic Indices are based on Construction Completion Acceptance Year 2026		
Traffic Index Year	Travel Lanes 1 & 2	
	Mainline	Shoulder
10 Year (ESAL)	57,960,166	1,159,203
10 Year TI	14.5	9.0
20 Year (ESAL)	137,373,578	2,747,472
20 Year TI	16.0	10.0
40 Year (ESAL)	362,047,109	7,240,942
40 Year TI	18.0	11.5

4C.2 Collision Analysis

Collision Analysis related to this project was performed by District 8 Traffic Operations Surveillance Region B and summarized in a memo dated November 14, 2019 (Attachment F). Caltrans Traffic Accident Surveillance & Analysis System (TASAS) Table B indicates the following summary for I-10 segment from PM R60.7 to R74.3 during the three-year period from February 1, 2017 to January 31, 2020.

Summary of Collision Data Tables

Table 4.3 – Summary of Collision Data: Eastbound I-10

Actual Rates and Average Rates (# of Accidents/Million Vehicle Miles)						
Location EB Interstate 10	Actual Accident Rates			Average Rates		
	Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total
PM R60.7/R74.3	0.010	0.20	0.53	0.006	0.11	0.32

Type of Collisions

Head-On	Sideswipe	Rear-End	Broadside	Hit-Object	Overturn	Auto-Ped	Other	Not Stated
1.0%	24.3%	34.0%	2.9%	27.2%	8.7%	1.0%	1.0%	0.0%

Primary Collision Factors

HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
7.8%	0.0%	1.0%	44.7%	26.2%	10.7%	0.0%	5.8%	3.9%	0.0%	0.0%

Table 4.4 – Summary of Collision Data: Westbound I-10

Actual Rates and Average Rates (# of Accidents/Million Vehicle Miles)						
Location WB Interstate 10	Actual Accident Rates			Average Rates		
	Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total
PM R60.7/R74.3	0.020	0.09	0.26	0.006	0.11	0.32

Type of Collisions

Head-On	Sideswipe	Rear-End	Broadside	Hit-Object	Overturn	Auto-Ped	Other	Not Stated
2.0%	31.4%	17.6%	0.0%	31.4%	15.7%	0.0%	2.0%	0.0%

Primary Collision Factors

HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
7.8%	0.0%	0.0%	51.0%	19.6%	13.7%	0.0%	5.9%	2.0%	0.0%	0.0%

HBD = Influence of Alcohol
FTC = Following Too Close
FTY = Failure to Yield
ID = Improper Driving
IT = Improper Turn
ESS = Speeding
OV = Other Violations
NS = Not Stated
OTD = Other Than Driver
UNK = Unknown
FA = Fell Asleep

According to the Caltrans Traffic Accident Surveillance and Analysis System (TASAS), Traffic Selective Accident Retrieval (TSAR), and Selective Accident Rate Calculation (Table B), the three-year traffic accident history for this EB segment of I-10 resulted in the actual fatal, fatal plus injury, and total rate higher than the statewide average. Several of the project improvements will enhance the safety of motorists along the corridor, such as improved grading and relocation of existing features outside of the clear recovery zone, remove and replace all existing bridge railings, remove existing MBGR and upgrade all guardrail and crash cushion systems to current standards on the mainline and on/off ramps, remove and replace rumble strips. For the WB segment, the actual fatal rate is higher than the statewide average. Fatal plus injury and total rate are

lower than the statewide average. Types of collisions and primary collision factors are tabulated above.

For the three-year period, according to TSAR, the major types of collisions are Hit-Object, Rear-End and Sideswipe. By constructing a Truck Climbing Lane on the EB, it is anticipated that reducing the number of Sideswipe and Rear-End collisions on the EB will be reduced. By shifting the mainline three feet to the left and re-grading the median slopes to 4:1 or flatter, it's going to improve the CRZ. It is anticipated that the severity and number of these types of collisions will be reduced.

4C.3 Materials

The Materials Report (MR) dated November 1, 2019 was prepared for this project. The report was prepared based on an analysis of historic data for past project, Traffic Index and most current traffic forecasting data. The MR also implemented rehabilitation strategies using pavement structural sections outlined in the Highway Design Manual (HDM) Topic 114 and Chapter 600 series (Attachment G). Recommendations of the MR are summarized in Section 5B of this Project Report (PR).

5. ALTERNATIVES

5A. Alternative 1: No Build

The No Build Alternative fails to address the project purpose and need, and it provides none of the project benefits cited for Alternative 2. The No Build Alternative would maintain the existing pavement condition of I-10 within the project limits with no rehabilitation on the mainline lanes and ramps or associated improvements.

Without pavement rehabilitation, the existing pavement condition will deteriorate further along the corridor resulting in operational deficiencies and will necessitate future costly maintenance measures. With no capital improvements, there is no capital cost for this alternative. There would be continued costs associated with maintenance, periodic rehabilitation, and any safety and operational improvements to the existing facility.

5B. Alternative 2: Pavement Rehabilitation

Under Alternative 2, seven rehabilitation strategies were considered for this project. Some of the features included in the project that apply to all rehabilitation strategies are listed below:

- Cold plane existing AC pavement on the mainline and shoulders.

- Raise the profile grade by approximately by one foot (except Rehab Strategy C – Reconstruct with JPCP) to achieve the recommended structural section. Raising the profile by one foot requires additional grading on the outside, beyond the existing hinge point, which in turn results in a wider area of environmental impact. To minimize this environmental impact the proposed outside edge of travel way and shoulders are shifted five feet and three feet towards the median on the EB and WB respectively.

- In order to conform and transition to the existing structures profile grade, the existing AC pavement and base of the mainline and shoulders will be removed at approaches and departures for a length of 1000 feet and will be replaced with a full depth structural section reconstruction (see Table 5.1B).

- Construct temporary detour lanes and crossover lanes in the existing median for traffic handling during construction with two options:

  - Option 1: Construct one temporary detour lane and one crossover in the EB and WB directions.

  - Option 2: Construct both detour lanes adjacent to the EB lanes. This detour option was considered but not carried forward. Providing a two-lane 31-foot wide detour pavement and bridges on the EB, with no traffic utilization, would attract motorists to park for extended length of time. Secondly, in an emergency incident on the WB roadbed, this wide unused detour pavement in the EB direction cannot be used to manage the WB traffic incidents. Thirdly, the existing shoulder on all WB bridges will have to be widened to accommodate the new bridge railings and meet standard shoulder width.

- Eastbound detour lane will be constructed using JPCP and converted to a general-purpose lane. The EB outside lane will be designated as a Truck Climbing Lane. The WB detour lane will remain in place and will be striped, signaling to the public that it is not available for use.

- Extend existing culverts in the median outside the CRZ.

- Remove existing AC on all bridges and treat the exposed decks.

- Remove and replace all existing bridge railings.

- Replace existing inlets in the median.

- Remove and replace existing dikes.

- Remove existing MBGR and upgrade all guardrail and crash cushion systems to current standards on the mainline and on/off ramps.

- Remove and reinstall rumble strips.

- Widen existing bridges towards the median for the sole purpose of construction traffic handling.

- Construct approach and departure slabs at all bridges.

- Remove/replace/repair existing Rock Slope Protection (RSP) under existing and widened bridges.

- Hydroseed the median for erosion control and attempted vegetation restoration as part of environmental palliative.

- All trees and shrubs removed to be replaced at a ratio per District Landscape Architect.

- Cold plane and overlay existing Cactus City Rest Area and ramps with Rubberized Hot Mix Asphalt.

- Electric vehicle charging stations will be installed at Cactus City Rest Area with two on the EB and two on the WB directions.

- Install Inventory Marker Signs (G-11) at both bridge approaches facing traffic. Information, Warning, and Regulatory signs impacted by the project median widening will be replaced.

Rehabilitation Strategy

Rehab Strategy A – (Preferred Strategy)
(COOA) with JPCP (Widen EB and WB roadbeds for Detour)

This strategy consists of placing 1.0 ft of (COOA) Jointed Plain Concrete Pavement (JPCP) on the existing two lanes of the traveled way and shoulders with a 40-year design life for rigid pavement.

Existing AC ramps at Cactus City Rest Area will be cold planed and overlaid with RHMA-G.

Under this strategy the existing profile grade will be increased by 1-foot. It is recommended to cold plane the existing AC pavement 0.20 feet prior to placing of JPCP to provide a uniform base support. To provide a smooth and level grade for the

construction of (COOA), 0.20 feet of HMA-A (Leveling) will be placed on the existing pavement. Estimated construction cost for this strategy is shown in Table 5.10.

For traffic handling purposes, two one-lane temporary detours will be constructed in the existing median in both EB and WB directions. The detour will remain in place after completion of the project. See Table 5.11 - Detour Structural Section for temporary detour.

The 40-year Traffic Index (TI) used for this rehab strategy is 18 for the mainline and the shoulders.

JPCP Structural Section Recommendation:

Table 5.1 – Mainline and Shoulders

Pavement Material	Design Life	Mainline	Shoulders
Cold Plane	40-Years	0.2’	0.2’
HMA-A		0.2’	0.2’
JPCP		1.0’	1. 0’

Table 5.1A
Structural Section 1000’ before and after Bridge Approach Slabs

Pavement Material	Design Life	Mainline	Shoulders
HMA-A	40-Year	0.3’	0.3’
JPCP (Reconstruction)		1.2’	1. 2’

Table 5.2 – Ramps and Shoulders

Pavement Material	Lane	Shoulders
Cold Plane	0.20’	0.20’
RHMA-G	0.20’	0.20’

Rehab Strategy B - (COOA) with Continuously Reinforced Concrete Pavement (CRCP) Widen EB and WB roadbeds for Detour

This strategy consists of placing 1.10 feet of CRCP (COOA) on the existing two lanes of the traveled way and shoulders with a 40-year design life for rigid pavement. Existing AC ramps will be cold planed and overlaid with RHMA-G.

Under this strategy the existing profile grade will be increased by 1.1 foot. It is recommended to cold plane the existing AC pavement 0.20 feet prior to placing of CRCP to provide a uniform base support. To provide a smooth and level grade for the construction of CRCP layer, 0.20 feet of HMA-A (Leveling) will be placed on the existing pavement. Estimated construction cost for this strategy is shown in Table 5.10. For traffic handling strategies, see Section 5D.

The 40-year Traffic Index (TI) used for this rehab strategy is 18 for the mainline and the shoulders.

CRCP (COOA) Structural Section:

Table 5.3 – Mainline and Shoulders

Pavement Material	Design Life	Mainline	Shoulders
Cold Plane	40-Year	0.2’	0.2’
HMA-A		0.2’	0.2’
CRCP (COOA)		1.10’	1.10’

Table 5.4 – Ramps and Shoulders

Pavement Material	Lane	Shoulders
Cold Plane	0.20’	0.20’
RHMA-G	0.20’	0.20’

Rehab Strategy C – Reconstruct with JPCP

The existing flexible pavement and base for the mainline and shoulder will be removed to full depth and replaced with a 40-year design life for rigid pavement. Under this strategy the existing profile grade will not be raised. Existing AC ramps will be cold planed and overlaid with RHMA-G.

JPCP Reconstruction Structural Section:

Table 5.5 – Mainline and Shoulders

Pavement Material	Design Life	Mainline	Shoulders
JPCP (Reconstruct)	40-Year	1.2’	1.2’
HMA-A		0.30’	0.30’

Table 5.6 – Ramps and Shoulders

Pavement Material	Lane	Shoulders
Cold Plane	0.20’	0.20’
RHMA-G	0.20’	0.20’

Rehab Strategy D – (COOA) Eastbound with JPCP and HMA on the Westbound (Widen EB and WB roadbeds for Detour)

This strategy uses JPCP (COOA) on the EB direction, and HMA overlay on the WB direction. Estimated construction cost for this strategy is shown in Table 5.10.

JPCP (COOA) and HMA Structural Section:

Table 5.7 Mainline and Shoulder Standard Sections

Pavement Material	Eastbound Design Life 40-Year		Westbound Design Life 20-Year	
	Mainline	Shoulder	Mainline	Shoulder
Cold Plane	0.2’	0.2’	0.2’	0.2’
JPCP	1.0’	1.0’	N/A	N/A
RHMA-G	N/A	N/A	0.2’	0.2’
HMA-A	0.2’	0.2’	0.5’	0.5’

Rehab Strategy E – (COOA) Eastbound with CRCP and HMA on the Westbound (Widen EB and WB roadbeds for Detour)

Strategy E is the same as Strategy D except pavement type will be CRCP on the EB. Estimated construction cost for this strategy is shown in Table 5.10.

Rehab Strategy F – Flexible Pavement – HMA overlay (No Detour)

The existing pavement is flexible, therefore overlaying the project with flexible pavement needs to be considered as a strategy for Life Cycle Cost Analysis (LCCA) purposes. This strategy proposes to overlay the existing structural section for the mainline, ramps and shoulders to the depth indicated in the table below. The HMA overlay operation will not apply to any bridge and bridge approach/departure slabs within the project limit. However, new approach and departure slabs will be constructed at all bridges. Under this strategy the existing profile grade will be increased by 0.50 feet. The 20-year Traffic Index (TI) for the mainline is 16. A design life of 40-years was not considered for flexible pavement strategy due to high TI value of 18. Estimated construction cost for this strategy is shown in Table 5.10 of this report.

HMA Structural Section:

Table 5.8 – Mainline and Shoulders

Pavement Material	Design Life	Mainline	Shoulders
Cold Plane	20-Year	0.2’	0.2’
RHMA-G		0.2’	0.2’
HMA - Type A		0.5’	0.5’

Table 5.9 – Ramps and Shoulders

Pavement Material	Lane	Shoulders
Cold Plane	0.2’	0.2’
RHMA-G	0.2’	0.2’

Rehab Strategy G – Continuous Reinforced Concrete Pavement (CRCP) on the EB and Joint plane Concrete Pavement (JPCP) on the WB, Widen EB and WB roadbeds for Detour

Strategy G is the same as Strategy A except pavement type will be CRCP by reconstruction on the EB direction. The reason for the EB CRCP reconstruction is described under Strategy B.

Estimated construction costs for these rehabilitation strategies are shown in Table 5.10.

Table 5.10 – Strategy Cost Estimate

Rehab Strategy ID	Option 1
A	$157,000,000
B	$220,210,000
C	$212,950,000
D	$168,740,000
E	$177,370,000
F	$ 69,800,000
G	$212,530,000

Traffic Handling Strategy

The Traffic Management Plan stipulated that it is necessary to have all freeway lanes open during construction. For traffic handling purposes, one option is being considered:

Detour Option 1 - Widen on both EB and WB Roadbeds

One lane 23-feet and one lane 19.4-feet total width (paved) temporary detour will be constructed in the existing median in both EB and WB directions respectively. For the detour lanes width in the east and west directions, see Detail "A" and "B" of attachment B. As a result of this construction detour, all existing bridges and/or drainage crossings on the EB and WB directions will be widened towards the median. Temporary detour will remain in place after completion of the project. Both EB and WB detours will be properly delineated.

The pavement rehabilitation under this detour option 1 (Attachment H) will require construction staging as follows:

Stage 1:
Construct the median crossovers and the detour lanes with bridge widening in both the EB and WB directions.

Stage 2:
Shift the EB traffic onto the detour lanes and rehabilitate the EB roadbed while the WB traffic remains uninterrupted on the WB roadbed.

Stage 3:
Return the EB traffic back onto the newly rehabilitated EB pavement and shift the WB traffic onto the detour lanes to rehabilitate the WB roadbed.

Stage 4:
Return the WB traffic back onto the newly rehabilitated WB pavement. Final stripe of mainline and detour area.

Detour Structural Section

Soil samples obtained from within the project limits showed R-Values ranged from 52 to 77. Based on laboratory test results, native materials (PM R60.7/R74.3) indicated as "Subgrade Soil Type I". Table 5.11 provides the detour structural section recommendation.

Table 5.11 – Detour Structural Section

Location (PM)	R-Value	Pavement Width / Material		
R60.7 / R74.3	50	EB		WB
		13'	9'	19'-5"
		1.2' JPCP 0.3' HMA-A	0.65' HMA-A 0.70' AB Cl 2	0.65' HMA-A 0.70' AB Cl 2

Structure Information

Structures listed in the table below will be widened towards the median.

Table 5.12 – Existing Bridges

No.	Bridge Name	Direction	Bridge Number	Post Mile	Widen, Replace Bridge Rail & Approach Slabs (Y/N)
1	Polaris Wash	EB/WB	56-0476R/L	R62.026	Y
2	Echo Ditch	EB/WB	56-0475R/L	R62.619	Y
3	Smoky Gulch	EB/WB	56-0201R/L	R63.648	Y
4	Sunny Gulch	EB/WB	56-0202R/L	R66.184	Y
5	Brown Arroyo	EB/WB	56-0204R/L	R68.285	Y
6	West Cactus Wash	EB/WB	56-0460R/L	R72.934	Y
7	Cactus Wash	EB/WB	56-0461R/L	R73.190	Y
8	East Cactus Wash	EB/WB	56-0462R/L	R73.445	Y
9	Hazy Gulch	EB/WB	56-0463R/L	R74.099	Y

For Typical Section of Structure Widening see Attachment I.

Nonstandard Design Features

The safety screening conducted for this project (see 2R Project Certification, Attachment Q), concluded that a 2R (pavement resurfacing and restoration) strategy is appropriate for the proposed project and a Design Standard Decision Document for both Boldface and Underlined design standards will not be required for existing geometric design features. This project does not propose new nonstandard features and will not degrade the geometric features and the safety of the facility.

Nonmotorized and Pedestrian Features

The scope of this project will not impact Title VI of the Civil Rights Act of 1964 requirements. This project is located in a sparsely populated area. Existing freeway is open to bicycle traffic and is anticipated to be maintained during construction.
Transportation Management Plan (TMP) will be prepared prior to construction to identify methods to minimize impacts to bicycle traffic. There is no documented presence of sidewalk within the project site.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

An Initial Site Assessment (ISA) Checklist (Attachment J) was completed for this project on December 19, 2019. The determination for this project having potentially hazardous waste involvement was rated as "LOW RISK."

6B. Value Analysis

Per the Federal Highway Administration (FHWA) guidelines, in August 2020, a Value Analysis (VA) study was performed to evaluate the performance value of the proposed project design and develop alternate methods to improve value of the proposed improvements. Through a 5-day study, the VA team developed four alternatives to help improve the proposed design features and reduce the environmental impacts associated with the proposed improvements. The VA report was presented to the District Management on August 21, 2020. The decision to implement VA alternatives is pending, and will be evaluated during design phase of the project.

6C. Resource Conservation

It is anticipated that all excavated material for this project will be reused to build the embankments where possible. The existing asphalt pavement that is removed as a result of the proposed improvements is expected to be recycled and reused in the construction to the extent possible. RHMA is used in this project to comply with Caltrans Recycling Program.

6D. Right of Way Issues

General

The proposed work will not require additional right of way. Various areas throughout the post miles indicated for the project are within Bureau of Land Management (BLM) jurisdiction. Concurrence from BLM is required prior to right of way certification. The Environmental Offsite Mitigation and Project Permits Fees are included in the Right of Way Data Sheet estimate (Attachment K).

Railroad

There are no railroad nor railroad conflicts within the project limits. Thus, there is no railroad involvement or coordination on this project.

Utilities

No impact to utilities is anticipated and existing utilities will be protected in place.

6E. Environmental Compliance

Under Caltrans' assumption of responsibility pursuant to 23 U.S.C. 327, an Environmental Assessment with Finding of No Significant Impact (EA-FONSI) has been prepared in compliance with NEPA. An Initial Study with Mitigated Negative Declaration (IS-MND) has been prepared, in accordance with Caltrans' environmental procedures, as well as State CEQA guidelines. The combined IS-MND/EA-FONSI was signed on September 10, 2020 (Attachment L).

6F. Air Quality Conformity

The project is located in the Salton Sea Air Basin, which is a Non-Attainment area for O_3 (Severe-15) and Particulate Matter – PM_{10} (Serious) for the National Ambient Air Quality Standards (NAAQS) but Unclassified/Attainment for CO, $PM_{2.5}$, and nitrogen dioxide - NO_2. This project falls under the category of exempt projects listed in the Caltrans Carbon Monoxide (CO) Protocol Table 1 under category "Truck climbing lane outside the urbanized area" or Table 2 of 40 CFR §93.126. Therefore, the project is exempt from all project-level and regional conformity requirements, and an Air Quality Report is not required

6G. Title VI Considerations

Implementation of the project will not result in any adverse impacts on minority or low-income neighborhoods, communities or groups, and will not have adverse effects on public transit, pedestrian traffic, or low mobility groups. This project

will comply with Title VI of the Civil Rights Act of 1964. Caltrans' Title VI Policy Statement and related statutes, which ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

6H. Noise Abatement Decision Report

The project is a Type I Project under 23 CFR 772.7; however, land uses identified in the Noise Study Report are Activity Category G. Activity Category G projects are exempt from noise analysis; thus, a noise abatement decision report is not required.

6I. Life Cycle Cost Analysis

A Life Cycle Cost Analysis (LCCA) report has been prepared in November 2019 to evaluate the pavement alternatives for the project improvements and provide a preliminary determination of the pavement structural sections for the project. The LCCA is an economic analysis that compares initial construction cost, future maintenance cost, and user delay cost of different pavement alternatives over an analysis period of 55 years. The LCCA data forms and deterministic results are included in this document as Attachment O.

Table 7.2 – Summary of the LCCA Analysis

Option	Pavement Section	Agency Cost	User Cost	Total Life Cycle Cost
1	1.00' JPCP 0.20' HMA	$134,128,000	$0	$134,128,000
2	1.10' CRCP 0.20' HMA	$146,670,000	$0	$146,670,000
3	0.2' RHMA-G 0.45' HMA	$195,134,000	$2,193,000	$197,327,000*

JPCP = Jointed Plain Concrete Pavement *HMA = Hot-Mixed Asphalt*
CRCP = Continuously Reinforced Concrete Pavement *AS = Aggregate Subbase*
RHMA-G = Rubberized Hot Mix Asphalt-Gap **for details see LCCA Attachment O*

Note: LCCA cost for Option 1 and 2 does not include cost of Detour and Bridge widening.

The LCCA report concludes that a 40-year JPCP design would have the lowest life cycle cost for the I-10 mainline lane and shoulders.

6J. Reversible Lanes

This rehabilitation project is not increasing capacity, therefore reversible lanes as required by California Streets and Highway Code, Section 100.15, were not considered for the project.

7. OTHER CONSIDERATIONS AS APPROPRIATE

7A. Public hearing Process

A public notice advertising Caltrans' intent to adopt a Mitigated Negative Declaration with Opportunity for Public Hearing was published in the Desert Sun, a newspaper of general circulation, on February 7, 2020. The document was available for public review and comment for thirty (30) days. No requests for public hearing or meeting were received. Comments were received and have been addressed in the Final Environmental Document.

7B. Route Matters

This project has no freeway agreements, route adoptions, relinquishments, no access modifications or new public road connection. Thus, route matters are not applicable to this project.

7C. Storm Water Compliance

A Storm Water Data Report (SWDR) is prepared to meet the demands of the storm water management requirements in regards to controlling pollutant discharge and meeting permits requirements. Storm Water Compliance will be updated during the PS&E phase of the project. All applicable construction activities will be reviewed in the development and preparation of the Storm Water Pollution Protection Plan. The signature front page of the SWDR prepared for the Project Approval and Environmental Document (PA&ED) phase is Attachment M.

7D. Permits

Permits and/or approvals required for the proposed project improvements are listed in Table 7.1

Table 7.1 – Permits

AGENCY	PERMITS
United States Army Corps of Engineers	Section 404 Permit, Clean Water Act for filling or dredging waters of the U.S.
United States Fish and Wildlife Service	Endangered Species Act, Section 7 Consultation
California Department of Fish and Wildlife	Section 1602 Lake or Streambed Alteration Agreement
Regional Water Quality Control Board, Region 8 (Colorado River)	Section 401 Water Quality Certification
State Water Resources Control Board	Construction General Stormwater and Caltrans' Statewide NPDES Permits *

* Permits have already been issued. Construction General Storm Water Permit only requires the submittal of the Notice of Intent by Construction.

7E. Cooperative Agreements

The project will require a cooperative agreement with Coachella Valley Conservation Commission to comply per Coachella Valley Multi-Species Habitat Conservation Plan-Implementing Agreement, Section 6.6.1. Caltrans as a signatory of the CVMSHCP is required to contribute funds to CVCC for the acquisition of conservation lands, management and monitoring of these lands for all covered activities. The proposed project has received concurrence as a covered activity and as such, Caltrans obligation for this project will be satisfied through payment of a 5% contribution/fee of the total construction cost.

7F. Other Agreements

No other agreements are needed for this project.

7G. Report on Feasibility of Providing Access to Navigable Rivers

Due to the nature of this project, a Report on Feasibility of Providing Access to Navigable Rivers is not required.

7H. Public Boat Ramps

This project does not involve public boat ramps.

7I. Transportation Management Plan

The proposed improvements will be constructed within the existing right of way. The total duration of construction for the project is approximately 600 days. Conceptual Traffic Management Plan (TMP) and Lane Requirement Chart will

be developed in the PS&E Phase to outline measures to minimize traffic impacts during construction. The cost of the TMP (Attachment N) has been estimated at $238,000.00 and is included in the cost estimate.

Contingency Plans

The following contingency plans will be developed during construction to address potential construction and traffic related issues that could arise:

- Construction Operations Contingency Plan to identify elements that could potentially fail and cause delays and provide the alternatives to ensure continuing operations and on-time opening of traffic lanes for each of the critical work operations.

- Traffic Handling Contingency Plan to identify traffic handling contingency strategies to be employed in the event of work zone incidents or late lane closure pickups.

- Public Information Office will be engaged to educate the public and inform the impacted local agencies and stakeholders.

7J. Stage Construction

The project construction is envisioned to be carried out in several construction stages with construction progressing from west to east and some overlap between stages. Construction operation will not necessitate the full closures of the freeway mainline, branch connectors, and interchange ramps. Areas within the State right of way may be used as construction staging areas. For construction staging description see Section 5B of this report.

7K. Accommodation of Oversize Loads

The I-10 freeway is on the United States Department of Defense (DOD) 2,460 miles Priority Network of selected Interstate System routes on which a 16- foot minimum vertical clearance is required. All of the I-10 overcrossing structures along the project corridor meet the 16-foot minimum vertical clearance requirement set by the DOD. The Caltrans mandatory design standard for minimum vertical clearance over State highways is 16 feet 6 inches. There are no overcrossings within the limits of this project; a minimum vertical clearance of 16 feet will be maintained during construction.

7L. Complete Streets

Within the project limits, bicycles are allowed on the shoulders. Rumble strips will be designed to be bicycle-friendly. A minimum of 4 feet clear shoulder will be provided between rumble strip and the outer edge of shoulders. To increase

public awareness about the presence of cyclists, signage along the highway will be installed.

7M. Climate Change

Implementation of the JPCP alternatives will result in a longer lasting pavement that can better withstand the excessive temperatures of the area. Increasing the longevity of pavements not only reduces the demand for new materials, but also decreases the need for maintenance and rehabilitation, which reduces Greenhouse Gas (GHG) emissions from maintenance and construction activities.

A GHG Emissions Analysis is included in the Environmental Document in the Climate Change section. The Project Adaptation Analysis covers the discussion of climate change risks for precipitation, temperature and wildfire; which are based on Caltrans' Vulnerability Assessment. This approach involves concepts and actions for exposure, consequence and prioritization. Neither construction nor operation of the project would introduce new users or structures into an area of high fire-severity concern to increase the risk of wildfire.

The scope of the project includes upgrading drainage facilities as well as installation of RSPs at all bridge abutments and piers located at washes within the project limits that help minimize damage in case of a flood event caused by monsoons.

7N. Asset Management

There were no issues identified in the PIR that needed to be carried over in this PR.

7O. Coordination with Other Projects

There is a project that proposes to construct a new interchange at Avenue 50 and I-10 in the City of Coachella in Riverside County under EA 45210 (PM R62.3-R63.7) with contract approval of 07/2021 and Construction Contract Acceptance (CCA) in winter 2023.

7P. Joint Field Meeting

As per District Memorandum dated August 9, 2018 Design Field Meetings Phase 0 and Phase 1, a 60% Constructability Review joint field meeting with Design, Maintenance, Construction, Environmental, and Project Management was conducted on September 17, 2019. See Attachment P for the joint field meeting roster.

8. FUNDING, PROGRAMMING AND ESTIMATE

Funding

It has been determined that this project is eligible for federal-aid funding. It is anticipated that the funding of the proposed I-10 Corridor Project will require several sources of funds. This project is currently programmed in the 2020 SHOPP under the Capital Preventive Maintenance program 201.122-(HA22) for delivery on the 2021/2022 FY.

Programming

The programmed budget for PA&ED support, Right of Way support, PS&E support, Construction support, and the Right of Way capital phases are adequate for the current estimated cost. This Design Build project is scheduled to be Ready to List (RTL) by June 30, 2021, therefore the current cost estimate has not been escalated.

Table 8.1 - Current Cost Estimate vs. Programmed Amounts

Fund Source	Current Estimate	Escalated Estimate				Total Escalated Estimate	Programmed Amount	Escalated Estimate Difference from Programmed
201.122		18/19	19/20	20/21	21/22			
Component	In Thousands of Dollars ($1,000)							
PA&ED	7,000		7,000			7,000	7,000	
PS&E	10,000			10,000		10,000	10,000	
ROW	90			90		90	90	
Const.	22,000				22,000	22,000	22,000	
Total Support	**39,090**		**7,000**	**10,090**		***39,090***	***39,090***	**0**
ROW	10*			10		10	10	
Const.	157,000				*157,000*	***157,000***	***157,000***	
Total Capital	**157,010**			**10**		**157,010**	**157,010**	**0**
Grand Total	196,100		7,000	10,100	179,000	196,100	196,100	0

* A PCR is being processed to fund an increase in the R/W capital cost to $15,636,185 as shown in Attachment K.

Support Ratio

The support cost ratio is 24.9% based on a total support cost of $39,090,000 and the combined escalated construction and right of way capital outlay costs of $157,010,000.

Estimate

The project cost estimate has been prepared using Caltrans cost estimating template. The Caltrans cost database was used in establishing unit prices. The current

construction cost matches the $157,000,000 programmed amount. For cost estimate details, please refer to Attachment D.

9. DELIVERY SCHEDULE

The Tentative project milestone schedule is shown in the table below:

Table 9.1 – Project Schedule*

Project Milestones		Milestone Date	Milestone Designation (Target / Actual)
PROJECT INITIATION DOCUMENT	M010	06/29/2017	Actual
CIRCULATE DED	M120	02/03/2020	Actual
PA&ED	M200	09/02/2020	Target
PS&E TO DOE	M377	09/01/2021	Target
RIGHT OF WAY CERTIFICATION	M410	*	Target
READY TO LIST	M460	06/30/2021*	Target
HEADQUARTERS ADVERTISE	M480	*	Target
AWARD	M495	*	Target
APPROVE CONTRACT	M500	*	Target
CONTRACT ACCEPTANCE	M600	*	Target
END PROJECT	M800	*	Target

* This schedule does not reflect Design Build sequence of activities.

10. RISKS

A Level 2 qualitative risk analysis has been performed for the project. Single Focal Point approval has been obtained to perform a Level 3 Quantitative Risk Analysis in the upcoming PS&E phase. Project risks have been identified by the PDT to include risks associated with project funding, environmental issues, design, and construction. Table 10.1 below provides a summary of some identified risks. For complete Risk Register, refer to Attachment R.

Table 10.1 – Risk Register Summary

CATEGORY	TITLE	PRIORITY RATING
Environmental	Permit	Moderate
Environmental	Desert Tortoise	Low
Design	Pavement Condition	Moderate
Design	Unit Cost	Moderate
Structure Design	Additional Bridge Work	High

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This Project Report has been reviewed by Caltrans' FHWA Liaison, Sergio Avila, on August 21, 2020, and is eligible for federal aid funding. Per the current Joint Stewardship and Oversight Agreement (Agreement) between the California Department of Transportation (Caltrans) and Federal Highway Administration (FHWA), dated May 28, 2015, this project is considered to be a Delegated Project. However, should any future situation/circumstance arise that will potentially classify the project as a Project of Division Interest, Caltrans shall notify FHWA and reassess this project using the Project of Division Interest selection criteria outlined in the Agreement.

12. PROJECT REVIEWS

Project Report Reviews

FUNCTIONAL UNIT	NAME	DATE
District Traffic Operations	Haissam Yahya	08-24-2020
District Safety Reviewer	Kevin Chen	08-13-2020
Program/Project Management	Manuel Farias	08-26-2020
District Maintenance Engineering	James Lan	08-13-2020
District Design Liaison/FHWA/ADA	Sergio Avila	08-21-2020
HQ Project Development Coordinator	Luis Betancourt	08-13-2020
Constructability Review	Martha Santana	08-13-2020
District 8 SHOPP Manager	Joseph Fehrenkamp	08-13-2020
Risk Management Coordinator	Md Shaheed	08-13-2020
Project Manager	Wil Ochoa	08-26-2020
District Materials Engineering	Parwaz Khasraw	08-25-2020
District Hydraulics	Alan Bisi	08-13-2020

13. PROJECT PERSONNEL

PERSONNEL	TITLE	PHONE
Wil Ochoa	Project Manager	(909) 806-3200
Diboro Kanabolo	Office Chief, Design ‘O’	(909) 383-7932
Fred Asef	Project Engineer, Design O	(909) 383-7508
Antonia Toledo	Branch Chief, Environmental Studies D	(909) 806-2541
Tatiana Torres	Associate Environmental Planner	(909) 383-7882
HaissamYahya	Traffic Operations -Surveillance B	(909) 383-4605
Dean To	Office Chief, Traffic Design	(909) 383-4635
Wendy Escobar	Associate Right of Way Agent	(909) 888-4608
Almabeth Anderson	District Landscape Architect	(909) 806-3226
Luz Quinnell	Associate Environmental Planner	(909) 383-6944
Chun-Sheng Wang	Associate Environmental Planner	(909) 388-7049

14. ATTACHMENTS

A. Location Map (1)
B. Typical Cross Section (2)
C. Project Development Category Assignment (1)
D. Preliminary Cost Estimate (10)
E. Project Initiation Proposal (1)
F. Collision Analysis Report (2)
G. Materials Report - signature page (25)
H. Detour Options/Stage Construction (7)
I. Typical Structural Widening (1)
J. Initial Site Assessment (1)
K. Right of Way Data Sheet (12)
L. IS/MND/EA-FONSI (7)
M. Storm Water Data Report - signature page (1)
N. Transportation Management Plan Cost Estimate (5)
O. Life Cycle Cost Analysis Data Forms (9)
P. Design Field Review Roster (1)
Q. 2R Project Certification (1)
R. Risk Register (5)

ATTACHMENT A

LOCATION MAP

INDEX OF PLANS

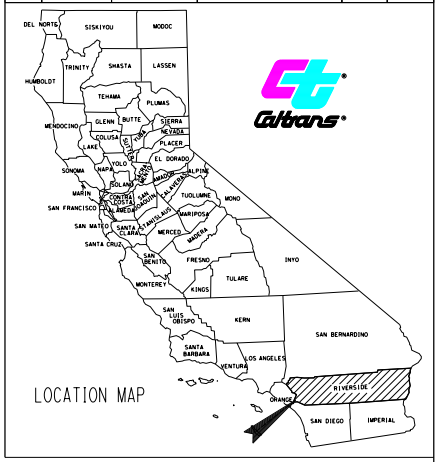
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

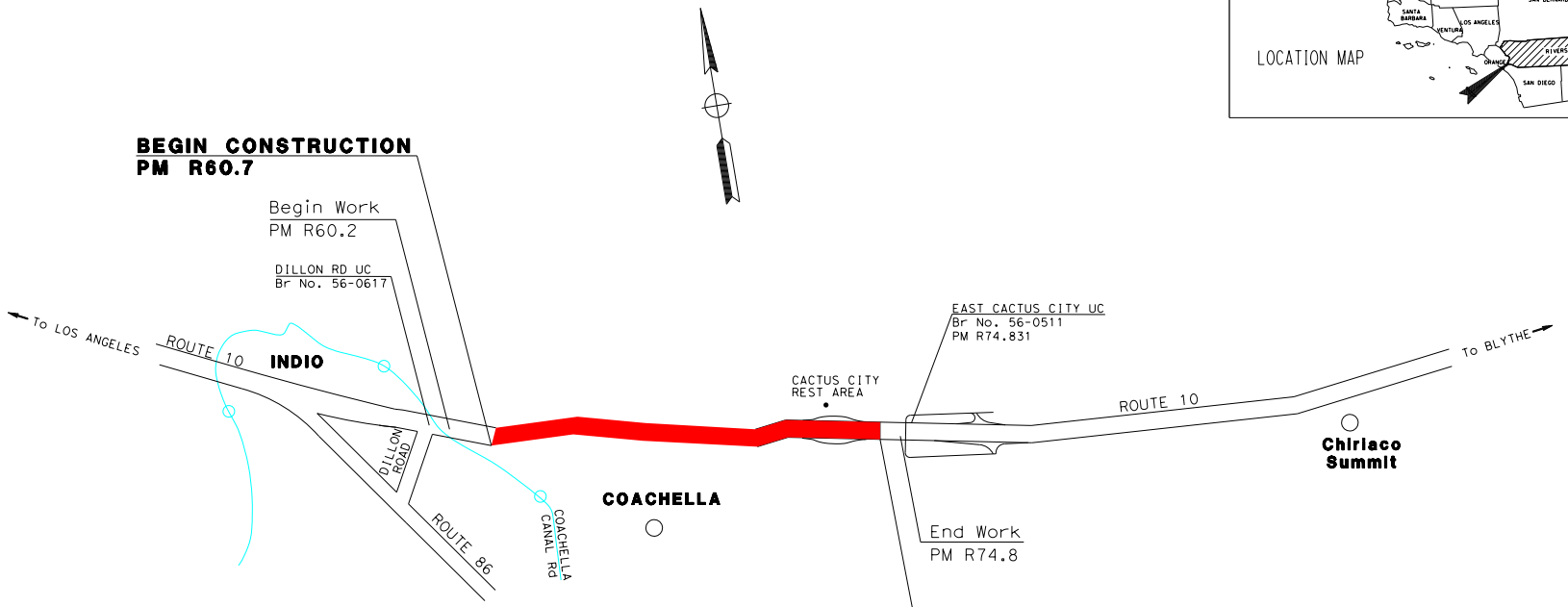
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN RIVERSIDE COUNTY
FROM 1.8 MILES E/O DILLON RD IC TO
2.0 MILES E/O CACTUS CITY REST AREA

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS





PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
DATE

PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

PROJECT MANAGER

DESIGN MANAGER

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

CONTRACT No.	08-1C0814
PROJECT ID	0816000086

LAST REVISION 00-00-00
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

BORDER LAST REVISED 8/1/2016 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => $USER DGN FILE => $REQUEST | UNIT 2239 | PROJECT NUMBER & PHASE 08160000861

ATTACHMENT B

TYPICAL CROSS SECTIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

PROPOSED STRUCTURAL SECTIONS

CONCRETE OVERLAY OVER ASPHALT

PM R60.7/R74.3 *

[1]
- 1.00′ JPCP
- 0.20′ HMA-A
- COLD PLANE 0.20′AC Pvmt

* FULL DEPTH PAVEMENT RECONSTRUCTION 1000′ AT APPROACH AND DEPARTURE OF BRIDGES (SEE X-2).

** WILL BE DESIGNATED AS A TRUCK CLIMBING LANE AFTER COMPLETION OF CONSTRUCTION.

EXISTING STRUCTURAL SECTIONS

PM R60.7/R74.3

[A]
- 0.35′ AC
- 0.25′ ACB
- 0.60′ AB
- 1.50′ AS

DESIGN DESIGNATION (ROUTE 10)

AADT (2018) = 28,000 TI = 18
AADT (2066) = 59,700 T = 51%
PHV = 7,630 V = 70 mph

PAVEMENT CLIMATE REGION

DESERT

DETOUR STRUCTURAL SECTIONS

PM R60.7/R74.3
WEST BOUND

[2]
- 0.65′ HMA-A
- 0.70′ CL2 AB

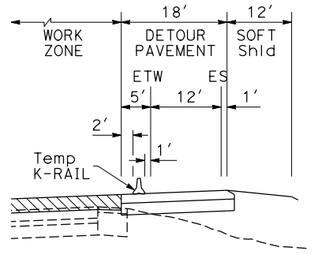
PM R60.7/R74.3
EAST BOUND

SHOULDER

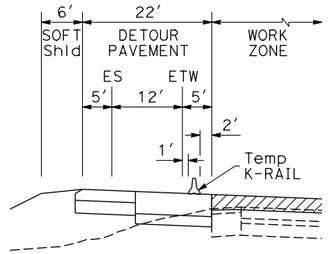
[2]
- 0.65′ HMA-A
- 0.70′ CL2 AB

MAINLINE

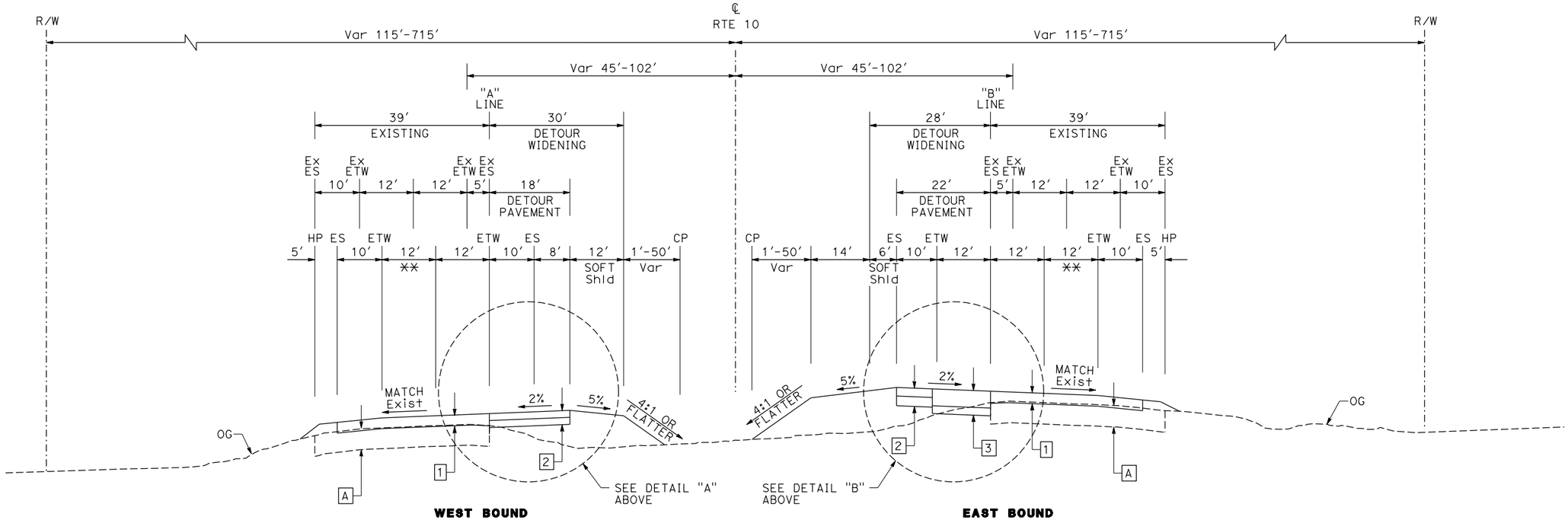
[3]
- 1.20′ JPCP
- 0.3′ HMA-A



DETAIL "A"
WESTBOUND
DETOUR TRAFFIC CONFIGURATION DURING MAINLINE CONSTRUCTION



DETAIL "B"
EASTBOUND
DETOUR TRAFFIC CONFIGURATION DURING MAINLINE CONSTRUCTION



ROUTE 10

PM R60.7 TO PM R74.3

* CONCRETE OVERLAY OVER ASPHALT

ATTACHMENT B

TYPICAL CROSS SECTIONS

NO SCALE **X-1**

REVISED BY | DATE REVISED
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 31-AUG-2020 | TIME PLOTTED => 11:14

BORDER LAST REVISED 7/2/2010 | USERNAME => s135527 | DGN FILE => Att B_Typical Cross Sections 1.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2239 | PROJECT NUMBER & PHASE 08160000871

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

PROPOSED STRUCTURAL SECTIONS

RECONSTRUCTION

PM R60.7/R74.3 *

3
- 1.20′ JPCP
- 0.30′ HMA-A

* RECONSTRUCTION 1000′ AT APPROACH AND DEPARTURE OF BRIDGES ON THIS LIMIT.

** WILL BE DESIGNATED AS A TRUCK CLIMBING LANE AFTER COMPLETION OF CONSTRUCTION.

EXISTING STRUCTURAL SECTIONS

PM R60.7/R74.3

A
- 0.35′ AC
- 0.25′ ACB
- 0.60′ AB
- 1.50′ AS

DESIGN DESIGNATION (ROUTE 10)

AADT (2018) = 28,000 TI = 18
AADT (2066) = 59,700 T = 51%
PHV = 7,630 V = 70 mph

PAVEMENT CLIMATE REGION

DESERT

DETOUR STRUCTURAL SECTIONS

PM R60.9/R74.0
WEST BOUND

2
- 0.65′ HMA-A
- 0.70′ CL2 AB

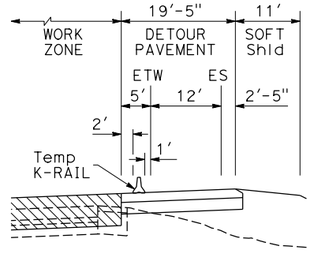
PM R60.7/R74.3
EAST BOUND

SHOULDER

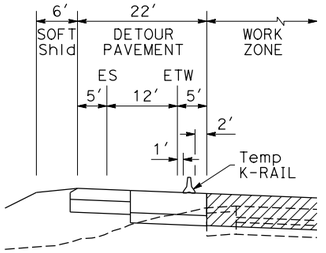
2
- 0.65′ HMA-A
- 0.70′ CL2 AB

MAINLINE

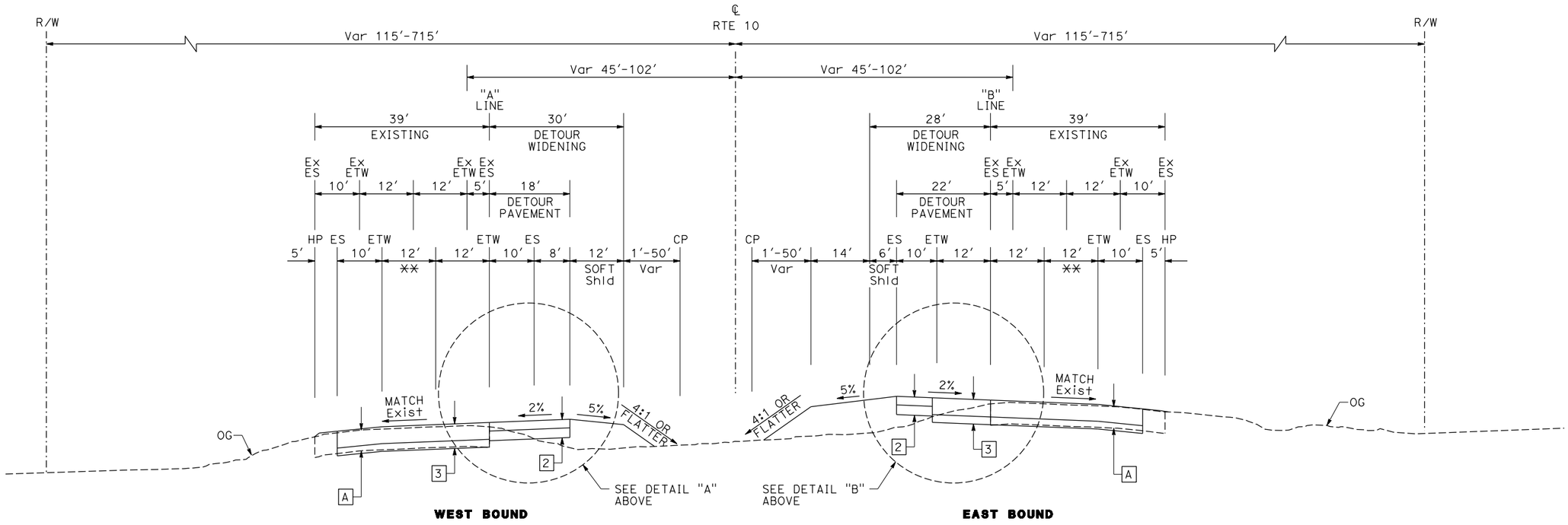
3
- 1.20′ JPCP
- 0.3′ HMA-A



DETAIL "A"
WESTBOUND
DETOUR TRAFFIC CONFIGURATION DURING MAINLINE CONSTRUCTION



DETAIL "B"
EASTBOUND
DETOUR TRAFFIC CONFIGURATION DURING MAINLINE CONSTRUCTION



ROUTE 10

PM R60.7 TO PM R74.3

* PAVEMENT RECONSTRUCTION

ATTACHMENT B

TYPICAL CROSS SECTIONS

NO SCALE **X-2**

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 31-AUG-2020 | TIME PLOTTED => 11:16

ATTACHMENT C

PROJECT DEVELOPMENT CATEGORY ASSIGNMENT

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation a California Way of Life.

To: JAMAL ELSALEH
ACTING DEPUTY DISTRICT DIRECTOR
DESIGN

Date: April 24, 2019

File: 08-Riv-10 PM R60.7/R74.3
In/Nr Coachella from 0.5 Mi E/O Coachella Canal to Hazy Gulch Br
Rehabilitate mainline pavement, shoulders & ramps
08 2239 / EA 1C081
Project No. 0816000086
20.xx.201.122 HA22

From: DIBORO KANABOLO
Office Chief
Design O, MS 1164

Subject: **REQUEST FOR CATEGORY 4B APPROVAL**

A Project Report is being prepared for the above-referenced project. This project consists of rehabilitation of existing Asphalt Concrete (AC) pavement. Existing AC pavements on the mainline and shoulders will be cold planed 0.2 foot and overlaid with 0.2 foot Hot Mix Asphalt (HMA) and one-foot (1.0') thick Jointed Plain Concrete Pavement [White Topping]. The existing ramp pavements will be cold planed 0.2 foot and overlaid with 0.2 foot HMA within the above- specified limits.

This project is classified as a Category 4B project, as defined in the Project Development Procedures Manual (7th Edition, Part 2, Chapter 8, Section 5), since the proposed improvements under consideration would not require additional right of way and does not substantially increase traffic capacity. Environmental determination for this Category 4B project is Initial Study with Negative Declaration/Environmental Assessment (IS/EA).

In accordance with Chapter 8, Section 5 of the Project Development Procedures Manual, your approval is requested to assign the above-referenced project to Category 4B.

Approved by:

4/30/19

MA JAMAL ELSALEH
Acting Deputy District Director
Design

Date

Fred Asef / jl

ATTACHMENT D

PRELIMINARY COST ESTIMATE

PROJECT

PROJECT COST ESTIMATE ©

EA: 08-1C081 PID: 0816000086

EA: 08-1C081

PID: 0816000086

District-County-Route: 08-Riv-10

PM: R60.7-R74.3

Type of Estimate : Project Report

Program Code : SHOPP - 201.122 (HA-22)

Project Limits : Riv-10-PM R60.7/R74.3

Project Description: Rehabilitate Mainline Pavement, Shoulders and Ramps

Scope : Rehab mainline and shoulders with JPCP White Topping (40-years) - (No S-Curve)

Alternative : Rehabilitate Mainline Pavement, Shoulders and Ramps - EB & WB Bridge Widening Detour (19'-5") - Detour Option 1 - Strategy A

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	$ 119,590,000	$ 119,590,000
TOTAL STRUCTURES COST	$ 37,410,000	$ 37,410,000
SUBTOTAL CONSTRUCTION COST	$ 157,000,000	$ 157,000,000
TOTAL RIGHT OF WAY COST	$ 10,000	$ 10,000
TOTAL CAPITAL OUTLAY COSTS	$ 157,010,000	$ 157,010,000
PA/ED SUPPORT	$ 7,000,000	$ 7,000,000
PS&E SUPPORT	$ 10,000,000	$ 10,000,000
RIGHT OF WAY SUPPORT	$ 90,000	$ 90,000
CONSTRUCTION SUPPORT	$ 22,000,000	$ 22,000,000
TOTAL SUPPORT COST	$ 39,090,000	$ 39,090,000
TOTAL PROJECT COST	$ 197,000,000	$ 197,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	5	/	2019
Estimated Construction Start (Month/Year)	7	/	2021
Number of Working Days =	600		
Estimated Mid-Point of Construction (Month/Year)	1	/	2023
Estimated Construction End (Month/Year)	7	/	2024
Number of Plant Establishment Days	NA		

Estimated Project Schedule

PID Approval	June-17
PA/ED Approval	September-20
PS&E	September-21
RTL	June-21
Begin Construction	
Contract Acceptance	
End Project Expenditures	

Reviewed by District O.E. or Cost Estimate Certifier

George Morhig	9/3/2020	(383) 383-4827
Office Engineer / Cost Estimate Certifier	**Date**	**Phone**

Approved by Project Manager

Wil Ochoa	9/3/2020	(909) 806-3200
Project Manager	**Date**	**Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	3,256,800
2	**Pavement Structural Section**	$	32,469,000
3	**Drainage**	$	7,761,600
4	**Specialty Items**	$	2,377,500
5	**Environmental**	$	6,377,400
6	**Traffic Items**	$	13,054,400
7	**Detours**	$	27,528,100
8	**Minor Items**	$	928,300
9	**Roadway Mobilization**	$	9,375,400
10	**Supplemental Work**	$	2,700,900
11	**State Furnished**	$	1,656,900
12	**Time-Related Overhead**	$	6,402,300
13	**Roadway Contingency**	$	5,694,500
	TOTAL ROADWAY ITEMS	**$**	**119,583,100**

Estimate Prepared By :	William Petoskey	9/3/2020	(909) 806-3211
	Name and Title	Date	Phone
Estimate Reviewed By :	Fred Asef	9/3/2020	(909) 383-7508
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	117,233	x	20.00	=	$	2,344,660
152320	Lead Compliance Plan	LS		x		=	$	-
194001	Ditch Excavation	CY		x		=	$	-
198010	Imported Borrow	CY		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
170103	Clearing & Grubbing	LS	1	x	200,000.00	=	$	200,000
170101	Develop Water Supply	LS	1	x	500,000.00	=	$	500,000
190185	Shoulder Backing	TON	7,070	x	30.00	=	$	212,100
210130	Duff	ACRE		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 3,256,800

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	188,970	x	115.00	=	$	21,731,550
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404093	Seal Isolation Joint	LF		x		=	$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		=	$	-
414202	Joint Seal (Preformed Compression)	LF		x		=	$	-
280010	Rapid Strength Concrete Base	CY		x		=	$	-
410095	Dowel Bar (Drill and Bond)	EA		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	149,794	x	60.00	=	$	8,987,640
390135	Hot Mix Asphalt (Leveling)	TON		x		=	$	-
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	2,700	x	120.00	=	$	324,000
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		=	$	-
260203	Class 2 Aggregate Base	CY		x		=	$	-
290201	Asphalt Treated Permeable Base	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
397100	Prime Coat	TON	170	x	1,000.00	=	$	170,000
397005	Tack Coat	TON	105	x	750.00	=	$	78,750
377501	Slurry Seal	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		=	$	-
394076	Place Hot Mix Asphalt Dike (Type E)	LF	155,175	x	3.00	=	$	465,525
150771	Remove Asphalt Concrete Dike	LF		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
150860	Remove Base and Surfacing	CY		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
15312X	Remove Concrete	LF/CY/LS		x		=	$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD	355,754	x	2.00	=	$	711,508
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		=	$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
250201	Class 2 Aggregate Subbase	CY		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 32,469,000

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
15080X	Remove Culvert	EA/LF		x		=	$	-
150820	Modify Inlet	EA		x		=	$	-
155232	Sand Backfill	CY		x		=	$	-
15020X	Abandon Culvert	EA/LF		x		=	$	-
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY		x		=	$	-
510090	Structural Concrete, Box Culvert	CY	500	x	2,000.00	=	$	1,000,000
5105XX	Minor Concrete (Type XX)	CY		x		=	$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF		x		=	$	-
6411XX	XX" Plastic Pipe	LF		x		=	$	-
65XXXX	XX" Reinforced Concrete Pipe (Type X)	LF		x		=	$	-
665037	36" Corrugated Steel Pipe (0.109" Thick)	LF	5,400	x	170.00	=	$	918,000
68XXXX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
69011X	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thi	LF		x		=	$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
703239	36" Corrugated Steel Pipe Riser (0.109" Thick)	LF	1,170	x	850.00	=	$	994,500
705023	36" Steel Flared End Section	EA	78	x	1,500.00	=	$	117,000
703233	Grated Line Drain	LF		x		=	$	-
720118	Rock Slope Protection (2T, Method A)	CY	19,903	x	120.00	=	$	2,388,360
721030	Rock Slope Protection (1/2T, Method B) (CY)	CY	15,849	x	110.00	=	$	1,743,390
729012	Rock Slope Protection Fabric (Class 10)	SQYD	11,057	x	5.00	=	$	55,285
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
151509	Reconstruct Drainage Facility	LS	1	x	545,000.00	=	$	545,000

TOTAL DRAINAGE ITEMS $ 7,761,600

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
080050	Progress Schedule (Critical Path Method)	LS		x		=	$	-
582001	Sound Wall (Masonry Block)	SQFT		x		=	$	-
510530	Minor Concrete (Wall)	CY		x		=	$	-
15325X	Remove Sound Wall	LF/LS		x		=	$	-
190110	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
141120	Treated Wood Waste	LB		x		=	$	-
153221	Remove Concrete Barrier	LF		x		=	$	-
839752	Remove Guardrail	LF	26,760	x	7.00	=	$	187,320
150668	Remove Flared End Section	EA		x		=	$	-
8000XX	Chain Link Fence (Type XX)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-6)	EA		x		=	$	-
832007	Midwest Guardrail System (Wood Post)	LF	36,525	x	37.50	=	$	1,369,688
839301	Single Thrie Beam Barrier	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
8395XX	Terminal System (Type CAT)	EA		x		=	$	-
839585	Alternative Flared Terminal System	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA	52	x	4,000.00	=	$	208,000
4906XX	CIDH Concrete Piling (Insert Diameter)	LF		x		=	$	-
839XXX	Crash Cushion (Insert Type)	EA		x		=	$	-
83XXXX	Concrete Barrier (Insert Type)	LF		x		=	$	-
520103	Bar Reinforced Steel (Retaining Wall)	LB		x		=	$	-
510060	Structural Concrete, Retaining Wall	CY		x		=	$	-
513553	Retaining Wall (Masonry Wall)	SQFT		x		=	$	-
511035	Architectural Treatment	SQFT		x		=	$	-
598001	Anti-Graffiti Coating	SQFT		x		=	$	-
203070	Rock Stain	SQFT		x		=	$	-
5136XX	Reinforced Concrete Crib Wall (Type X)	SQFT		x		=	$	-
839543	Transition Railing (Type WB-31)	EA	36	x	4,000.00	=	$	144,000
597601	Prepare and Stain Concrete	SQFT		x		=	$	-
832070	Vegetation Control (Minor Concrete)	SQYD	12,400	x	20.00	=	$	248,000
839561	Rail Tensioning Assembly	EA		x		=	$	-
839581	End Anchor Assembly (Type SFT)	EA	55	x	1,000.00	=	$	55,000
846051	12" Rumble Strip (Asphalt Concrete Pavement)	STA		x		=	$	-
846052	12" Rumble Strip (Concrete Pavement)	STA	1,337	x	120.00	=	$	160,440

TOTAL SPECIALTY ITEMS $ 2,377,500

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
146002	Contractor Supplied Biologist	LS	1	x	2,411,325.00	=	$	2,411,325		
146003	Natural Resources Protection Plan	LS	1	x	5,000.00	=	$	5,000		
803210	Desert Tortoise Fence	LF	138,336	x	14.00	=	$	1,936,704		
803210	Temporary Desert Tortoise Fence	LF	500	x	14.00	=	$	7,000		
								Subtotal Environmental Mitigation	$	*4,360,029*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
20XXXX	Highway Planting	LS	1	x	100,000.00	=	$	100,000		
20XXXX	Irrigation System	LS		x		=	$	-		
204035	Plant (Group A)	EA		x		=	$	-		
204099	Plant Establishment Work	LS		x		=	$	-		
204101	Extend Plant Establishment Work	LS		x		=	$	-		
20XXXX	Follow-up Landscape Project	LS		x		=	$	-		
150685	Remove Irrigation Facility	LS		x		=	$	-		
20XXXX	Maintain Existing (Irrigation or Planted Areas)	LS		x		=	$	-		
206400	Check and Test Existing Irrigation Facilities	LS		x		=	$	-		
21011X	Imported Topsoil (X)	CY/TON		x		=	$	-		
20XXXX	Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x		=	$	-		
200122	Weed Germination	SQYD		x		=	$	-		
208304	Water Meter	EA		x		=	$	-		
2087XX	XX" Conduit (Use for Irrigation x-overs)	LF		x		=	$	-		
20890X	Estimate is based on Earthwork Quantity	LS	1	x	651,360.00	=	$	651,360		
								Subtotal Landscape and Irrigation	$	*751,360*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
210010	Move In/Move Out (Erosion Control)	EA	*6*	x	10,000.00	=	$	60,000		
210121	Duff (Acre)	SQFT	*6,844,000*	x	0.03	=	$	205,320		
210350	Fiber Rolls	LF		x		=	$	-		
210360	Compost Sock	LF		x		=	$	-		
2102XX	Rolled Erosion Control Product (X)	SQFT		x		=	$	-		
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		=	$	-		
	Erosion Control	SQFT	*6,844,000*	x	0.05	=	$	342,200		
210420	Straw	SQFT		x		=	$	-		
210430	Hydroseed	SQFT		x		=	$	-		
210600	Compost	SQFT		x		=	$	-		
210630	Incorporate Materials	SQFT		x		=	$	-		
								Subtotal Erosion Control	$	*607,520*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130300	Prepare SWPPP	LS	1	x	6,000.00	=	$	6,000		
130200	Prepare WPCP	LS		x		=	$	-		
130100	Job Site Management	LS	1	x	111,000.00	=	$	111,000		
130330	Storm Water Annual Report	EA	4	x	2,000.00	=	$	8,000		
130310	Rain Event Action Plan	EA	20	x	500.00	=	$	10,000		
130320	Storm Water Sampling and Analysis Day	EA	4	x	1,200.00	=	$	4,800		
130520	Temporary Hydraulic Mulch	SQYD	1,200,320	x	0.11	=	$	132,035		
130550	Temporary Hydroseed	SQYD		x		=	$	-		
130560	Temporary Soil Binder	SQYD		x		=	$	-		
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		=	$	-		
130640	Temporary Fiber Roll	LF	137,280	x	2.00	=	$	274,560		
130900	Temporary Concrete Washout (Portable)	LS	1	x	50,000.00	=	$	50,000		
130710	Temporary Construction Entrance/Exit	EA	13	x	2,000.00	=	$	26,000		
130610	Temporary Check Dam	LF		x		=	$	-		
130620	Temporary Drainage Inlet Protection	EA	20	x	300.00	=	$	6,000		
130730	Street Sweeping	LS	1	x	30,000.00	=	$	30,000		
								Subtotal NPDES	$	*658,395*

								TOTAL ENVIRONMENTAL	**$**	**6,377,400**

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS		x		=	$	-		
066596	Additional Water Pollution Control**	LS	1	x	4,400.00	=	$	4,400		
066597	Storm Water Sampling and Analysis***	LS		x		=	$	-		
XXXXXX	Some Item	LS		x		=	$	-		
								Subtotal Supplemental Work for NDPS	$	*4,400*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination	LS		x		=	$	-
860201	Signal and Lighting	LS		x		=	$	-
860990	Closed Circuit Television System	LS		x		=	$	-
86110X	Ramp Metering System (Location X)	LS		x		=	$	-
86070X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
5602XX	Furnish Sign Structure (Type X)	LB		x		=	$	-
5602XX	Install Sign Structure (Type X)	LB		x		=	$	-
498040	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
86080X	Inductive Loop Detectors	EA/LS		x		=	$	-
XXXXX	OH (Sign)	EA	5	x	167,500.00	=	$	837,500
15075X	Remove Sign Structure	EA/LS		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
860090	Maintain Existing Traffic Management System Ele	LS	1	x	900,000.00	=	$	900,000
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
XXXXX	Electric Vehicle Charging Station System	LS	1	x	800,000.00	=	$	800,000

Subtotal Traffic Electrical $ *2,537,500*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
566011	Roadside Sign - One Post	EA	50	x	1,000.00	=	$	50,000
566012	Roadside Sign - Two Post	EA	20	x	2,000.00	=	$	40,000
5602XX	Furnish Sign	SQFT	1,300	x	25.00	=	$	32,500
568016	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
150711	Remove Thermoplastic Traffic Stripe	LF	334,488	x	0.75	=	$	250,866
141103	Remove Yellow Thermoplastic Traffic Stripe (Hazardous Waste)	LF	267,590	x	1.00	=	$	267,590
150712	Remove Painted Pavement Marking	SQFT	5,000	x	2.00	=	$	10,000
150742	Remove Roadside Sign	EA	50	x	200.00	=	$	10,000
152320	Reset Roadside Sign	EA	50	x	500.00	=	$	25,000
152390	Relocate Roadside Sign	EA	50	x	500.00	=	$	25,000
820107	Delineator (Class 1)	EA	1,338	x	60.00	=	$	80,280
820130	Object Marker	EA	20	x	150.00	=	$	3,000
120159	Temporary Traffic Stripe (Paint)	LF	668,976	x	0.40	=	$	267,590
120300	Temporary Pavement Marker	EA	13,937	x	5.00	=	$	69,685
840516	Thermoplastic Pavement Marking (Enhanced Wet	SQFT	12,000	x	6.00	=	$	72,000
846007	6" Thermoplastic Traffic Stripe (Enhanced Wet Nig	LF	535,181	x	0.85	=	$	454,904
846012	Thermoplastic Crosswalk and Pavement Marking (	SQFT	10,506	x	4.00	=	$	42,024
120090	Construction Area Signs	LS	1	x	20,000.00	=	$	20,000
810120	Remove Pavement Marker	EA	12,000	x	1.00	=	$	12,000
810230	Pavement Marker (Retroreflective)	EA	9,756	x	4.00	=	$	39,024

Subtotal Traffic Signing and Striping $ *1,771,463*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128652	Portable Changeable Message Signs	LS	1	x	$ 200,000	=	$	200,000

Subtotal Traffic Management Plan $ *200,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120199	Traffic Plastic Drum	EA		x		=	$	-
120165	Channelizer (Surface Mounted)	EA	554	x	50.00	=	$	27,700
120120	Type III Barricade	EA	1	x	5,000.00	=	$	5,000
129100	Temporary Crash Cushion Module	EA	168	x	200.00	=	$	33,600
129150	Temporary Traffic Screen	LF	612,480	x	3.75	=	$	2,296,800
120100	Traffic Control System	LS	1	x	1,100,000.00	=	$	1,100,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF	337,488	x	15.00	=	$	5,062,320
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
568046	Remove Sign Structure	LS	1	x	20,000.00	=	$	20,000

Subtotal Stage Construction and Traffic Handling $ *8,545,420*

TOTAL TRAFFIC ITEMS $ **13,054,400**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY		x		=	$	-
198010	Imported Borrow	CY	634,252	x	20.00	=	$	12,685,040
401050	Jointed Plain Concrete Pavement	CY	38,618	x	115.00	=	$	4,441,070
390132	Hot Mix Asphalt (Type A)	TON	127,364	x	60.00	=	$	7,641,840
260203	Class 2 Aggregate Base (CY)	CY	59,609	x	35.00	=	$	2,086,315
250201	Class 2 Aggregate Subbase	CY		x		=	$	-
390100	Prime Coat	TON	280	x	1,000.00	=	$	280,000
397005	Tack Coat	TON	129	x	750.00	=	$	96,750
414202	Joint Seal (Preformed Compression)	LF		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
128601	Temporary Signal System	LS		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
190185	Shoulder Backing	TON	7,228	x	30.00	=	$	216,840
782200	Obliterate Surfacing	SQYD		x		=	$	-
846046	6" Rumble Strip (Asphalt Concrete Pavement	STA	1,337	x	30.00	=	$	40,110
846051	12" Rumble Strip (Asphalt Concrete Pavemer	STA	1,337	x	30.00	=	$	40,110

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ 27,528,100**

SUBTOTAL SECTIONS 1 through 7 $ 92,824,800

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items						
ADA Items			1.0%	$	928,248	
8B - Bike Path Items						
Bike Path Items			0.0%	$	-	
8C - Other Minor Items						
Other Minor Items			0.0%	$	-	
Total of Section 1-7	$	92,824,800	x 1.0%	= $	928,248	

TOTAL MINOR ITEMS **$ 928,300**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	93,753,100	x 10%	= $	9,375,310	

TOTAL ROADWAY MOBILIZATION **$ 9,375,400**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066670	Payment Adjustments For Price Index Fluctuations	LS	1	x	998,907.97	=	$	998,908
066094	Value Analysis	LS	1	x	10,000.00	=	$	10,000
066070	Maintain Traffic	LS	1	x	200,000.00	=	$	200,000
066919	Dispute Resolution Board	LS	1	x	50,000.00	=	$	50,000
066921	Dispute Resolution Advisor	LS	1	x	50,000.00	=	$	50,000
066015	Federal Trainee Program	LS	1	x	50,000.00	=	$	50,000
066610	Partnering	LS	1	x	100,000.00	=	$	100,000
066204	Remove Rock and Debris	LS		x		=	$	-
066222	Locate Existing Crossover	LS		x		=	$	-
066405A	Concrete Pavement Smoothness Incentive	LS	1	x	300,000.00	=	$	300,000
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	4,400
	Total Section 1-8	$	93,753,100		1%	=	$	937,531

TOTAL SUPPLEMENTAL WORK **$ 2,700,900**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	204,530.00	=	$204,530
066063	Traffic Management Plan - Public Information	LS	1	x	110,000.00	=	$110,000
066901	Water Expenses	LS		x		=	$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	$0
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	128,000.00	=	$128,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS		x		=	$0
066916	Annual Construction General Permit Fee	EA	4	x	6,700.00	=	$26,800
066405A	Concrete Smoothness Incentive Pavement	LS	1	x	250,000.00	=	$250,000
	Total Section 1-8	$	93,753,100		1%	= $	937,531

TOTAL STATE FURNISHED **$1,656,900**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $128,045,600 (used to calculate TRO)

Total Construction Cost (excluding TRO and Contingency) $144,896,300 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **5%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	600	X	$10,671	=	$6,402,300

TOTAL TIME-RELATED OVERHEAD **$6,402,300**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	113,888,600	x	**5%**	=	$5,694,430

TOTAL CONTINGENCY **$5,694,500**

II. STRUCTURE ITEMS

	Bridge 1	Bridge 2	Bridge 3
DATE OF ESTIMATE	12/18/18	12/18/18	12/18/18
Bridge Name	Polaris Wash & Echo Ditch	Smoky Gulch & Sunny Gulch	Brown Arroyo & West Cactus Wash
Bridge Number	56-0476R/L & 56-0475R/L	56-0201R/L & 56-0202R/L	56-0204R/L & 56-0460R/L
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	82 LF	82 LF	82 LF
Total Bridge Length (Feet)	260 LF	726 LF	567 LF
Total Area (Square Feet)	5333 SQFT	14933 SQFT	11693 SQFT
Structure Depth (Feet)	1 LF	1 LF	1 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$664	$664	$664
COST OF EACH	**$3,538,767**	**$9,909,758**	**$7,759,315**

	Bridge 4	Bridge 5	Bridge 6
DATE OF ESTIMATE	12/18/18	12/18/18	12/18/18
Bridge Name	Cactus Wash	East Cactus Wash	Hazy Gulch
Bridge Number	56-0461R/L	56-0462R/L	56-0463R/L
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	82 LF	82 LF	82 LF
Total Bridge Length (Feet)	357 LF	225 LF	151 LF
Total Area (Square Feet)	7324 SQFT	4607 SQFT	3089 SQFT
Structure Depth (Feet)	1 LF	1 LF	1 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$664	$664	$664
COST OF EACH	**$4,860,065**	**$3,057,522**	**$2,049,574**

TOTAL COST OF BRIDGES		**$31,175,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$3,117,500**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)
Total recommended percentages includes any quantified risk based contingency from the risk register.

STRUCTURES CONTINGENCY	10%	**$3,117,500**

TOTAL COST OF STRUCTURES $37,410,000

Note: The total cost of all bridge structures including time related overhead, mobilization, and contingencies is $37,406,000.

Estimate Prepared By: Sara Yip — Structural Engineer --- Division of Structures

12/04/2019 — Date

EA: 08-1C081 PID: 0816000086

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	0
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	10,000
C)	C1)	Utility Relocation (State Share)	$	0
	C2)	Potholing (Design Phase)	$	0
D)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	0
E)		Clearance / Demolition	$	0
F)		Title and Escrow	$	0
G)		Project Permit Fees	$	0
H)		Environmental Review	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$10,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$10,000**
N)	**RIGHT OF WAY SUPPORT**	**$90,000**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

ATTACHMENT E

PROJECT INITIATION PROPOSAL

STATE OF CALIFORNIA — PROJECT INITIATION PROPOSAL (PIP) — DEPT OF TRANSPORTATION

PROGRAM MGMT. **FOR CAPITAL OUTLAY AND MAINTENANCE (HM) PROJECTS**

Revised March 2012

2012 APR -5 AM 9:30

DATE REC IN PM:

Project ID # 0817000286 E.A. 1C080 PIP NO. 3820

A. Originating Office Maintenance

Senior / Branch Chief Mike Ristic

Contact Angela Ho

Date 3/12/2012

Telephone Number 1026

Telephone Number 1490

LOCATION: Riv 10 134.0/145.2 (Co-Rte-Post Mile)

Near Blythe from Teed Ditch to Mesa Dr (Geographic)

ISSUE:

The location above has been identified as a location requiring pavement rehabilitation/preservation.

PROPOSAL/SOLUTION(S):

Rehabilitate mainline pavement , shoulders and ramps. Alternates will include PCCP.

AGREEMENT REQUIRED: YES: NO: X AGENCY:

PERFORMANCE MEASURES: NUMBER: 44.8 DESCRIPTOR: LM

EXPECTED ENVIRONMENTAL DOCUMENT: CE

PRELIMINARY ESTIMATE

CONST: Roadwork = $44,800,000 Structures = Total = $44,800,000

State Share = $44,800,000 Local Share =

R/W : Acquisition = Utilities = Total = $0

State Share = Local Share =

TOTAL PROJECT COST: (CONST + R/W): $44,800,000

B. PROGRAM MANAGEMENT ONLY: PROGRAM CODE: 201.122 PMCS CODE: HA22

Proposed Funding: SHOPP - 2014 2016 FY: 2010

Project Type: Major: X Minor: Permit: Maintenance (HM):

Project Manager: John Ashton Functional Manager: Matthew Maestas

Comments:

For Review: Ready for District review AES 4/10/12

For Approval: I recommend this PIP for approval

PID / PR TYPE: PSSR Reviewed by: R. Youssef Date: 5/3/12

C. FINAL DISPOSITION BY DDD:

Project: Approved as Submitted ✓ Rejected Approved With Conditions(See Comments)

COMMENTS: PID must be completed prior to 7/1/2015

For ✓ DDD Program/Project Management

DDD Maintenance

Date: 5/8/2012

ATTACHMENT F

COLLISION ANALYSIS REPORT

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation a California Way of Life.

To: DIBORO KANABOLO
Office Chief
Design O, MS 1164

Date: November 14, 2019

File: 08-Riv-10 PM R60.7/R74.3
EA 1C081
PN. 0816000086

From: HAISSAM YAHYA
Office Chief
COS
Traffic Operations, MS 715

Subject: **ACCIDENT DATA AND COLLISION ANALYSIS**

This is in response to your accident data and collision analysis request for the above referenced project. This project is to rehabilitate existing Interstate 10 (I-10) AC pavement with PCC pavement replacement for the mainline, shoulders and constructing a Truck Climbing Lane on the Eastbound. Existing AC pavement will be milled and overlaid with Hot-Mix Asphalt (HMA).

Caltrans Traffic Accident Surveillance & Analysis System (TASAS) Table B indicates the following summary for I-10 during the three-year period of October 1, 2016 to September 30, 2019. The data was generated on November 12, 2019 for the locations shown below:

Summary of Collision Data: Eastbound I-10 PM R60.7/R74.3

Actual Rates and Average Rates (# of Accidents/Million Vehicle Miles)										
Location I-10		Actual Accident Rates			Average Rates					
		Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total			
PM R60.7/R74.3		0.010	.20	.53	0.006	.11	0.32			
Type of Collisions										
Head-On	Sideswipe	Rear-End	Broadside	Hit-Object	Overturn	Auto-Ped	Other	Not Stated		
1.0%	24.3%	34.0%	2.9%	27.2%	8.7%	1.0%	1.0%	0.0%		
Primary Collision Factors										
HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
7.8%	0.0%	1.0%	44.7%	26.2%	10.7%	0.0%	5.8%	3.9%	0.0%	0.0%

Summary of Collision Data: Westbound I-10 PM R60.7/R74.3

Actual Rates and Average Rates (# of Accidents/Million Vehicle Miles)										
Location I-10	Actual Accident Rates			Average Rates						
	Fatal	Fat+Inj	Total	Fatal	Fat+Inj	Total				
PM R60.7/R74.3	0.020	.09	.26	0.006	.11	0.32				
Type of Collisions										
Head-On	Sideswipe	Rear-End	Broadside	Hit-Object	Overturn	Auto-Ped	Other	Not Stated		
2.0%	31.4%	17.6%	0.0%	31.4%	15.7%	0.0%	2.0%	0.0%		
Primary Collision Factors										
HBD	FTC	FTY	IT	ESS	OV	ID	OTD	UNK	FA	NS
7.8%	0.0%	0.0%	51.0%	19.6%	13.7%	0.0%	5.9%	2.0%	0.0%	0.0%

HBD = Influence of Alcohol
FTC = Following Too Close
FTY = Failure to Yield
ID = Improper Driving
IT = Improper Turn
ESS = Speeding
OV = Other Violations
NS = Not Stated
OTD = Other Than Driver
UNK = Unknown
FA = Fell Asleep

According to the Caltrans Traffic Accident Surveillance and Analysis System (TASAS), Traffic Selective Accident Retrieval (TSAR), and Selective Accident Rate Calculation (Table B), the three-year traffic accident history for this Eastbound segment of I-10 resulted in the actual fatal, fatal plus injury, and total rate higher than the statewide average. For the Westbound segment the actual fatal rate higher than the statewide average, fatal plus injury and total rate are lower than the statewide average. Types of collisions and primary collision factors are tabulated above.

For the three-year period, according to TSAR, the major types of collisions are Hit-Object, Rear-End and Sideswipe. By constructing a Truck Climbing Lane on the Eastbound, it anticipates reducing the number of Sideswipe and Rear-End collisions on the Eastbound.

Should you have any questions or need additional information, please feel free to call Tri Le at (909) 388-7164 or myself at (909) 383-4065.

ATTACHMENT G

MATERIALS REPORT

California Department of Transportation

District 8 / Construction Division / Materials Engineering

464 West 4th Street, 6th Floor

San Bernardino, CA 92401

MATERIALS REPORT

EA 08-1C081

Project Number: 0816000086

08-RIV-10-PM 60.7/74.3

November 01, 2019

This Materials Report has been prepared by the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

Prepared By:

Sathiskumar

11/01/2019

Sittampalam Sathiskumar, Registered Civil Engineer — Date

Concurred By:

Parwaz Khasraw

11/01/2019

Parwaz Khasraw, District 8 Materials Engineer — Date

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1.0 INTRODUCTION

This Materials Report (MR) was prepared per Design O's request to support the Project Report document. This MR provides recommendations for various pavement strategies. Information contained herein is based on review of available as-built plans, historic data, site-specific soil sampling, laboratory testing, deflection study, traffic forecasting memorandum, and followed the requirement of Materials Report and pavement design specified in Topic 114 and Chapter 600 series of the Caltrans Highway Design Manual (HDM), 2017.

2.0 PROJECT DESCRIPTION

2.1 Existing Facilities

The project site is located along I-10 in Riverside County between a starting limit at 2.0 miles east of Dillon Road Interchange (PM R60.7) and ending limit at PM R74.3. A vicinity map and a site location map are shown in Figures 1 and 2 respectively. The I-10 within the project limit is a four-lane freeway (two lanes in each direction), separated by a terrain slope in the median. The existing lanes are 12 feet wide with outside shoulder widths of 10 feet and inside shoulder widths of 5 feet. Within the project limit, majority of mainline lanes consist of Asphalt Concrete (AC) Pavement except for Portland Cement Concrete (PCC) pavement in the East Bound (EB) PM60.7/60.9 and West Bound (WB) PM60.7/61.1. Inside and outside shoulders consist of AC pavement in both directions. Surface conditions of mainline lanes and shoulders generally vary from "fair to good".

Within the project limits, a realignment was done which caused some losses/gains of 0.71 miles between PM61.3 and PM62.03. The realignment is not reflected in the physical PM Markers present on the highway. Table 1 illustrates the affected Post Miles.

Table 1 - Post Miles Affected by Realignment

Direction	PM Markers (Used for Collection)	CT PM Markers (per CT Database) [if PM < 62.0: -0.71 miles]
WB	62.0 to 61.8 (Δ=0.2 miles)	62.0 to 61.1 (Δ=0.2 miles)
EB	61.0 to 61.6 (Δ=0.6 miles)	60.29 to 60.89 (Δ=0.6 miles)
EB	61.6 to 62.0 (Δ=0.4 miles)	60.89 to 62.0 (Δ=0.4 miles)

2.2 Proposed Improvement

This project will improve existing I-10 AC pavement by evaluating various pavement strategies including reconstruction, concrete overlay with JPCP/CRCP (white topping), and rehabilitation (mill and overlay, partial depth removal and replace). In addition, the existing non-standard inside shoulders will be reconstructed to the standard 10-foot wide shoulders. To minimize environmental impacts, existing I-10 alignment will be shifted approximately 4 feet towards the median. Existing AC pavement on ramps and Cactus

City Rest Area will be milled and overlaid with Rubberized Hot-Mix Asphalt (RHMA-G). Rigid ramp transitions and ramp gore area will be constructed where appropriate. To handle traffic during construction, a two-lane detour lanes and crossovers will be constructed by widening within the median in the eastbound direction. After completion of stage construction, the detour pavement will be converted to a 12-foot general purpose lane with a 10-foot inside shoulder. The outside pavement in eastbound (lane no.3) will be used for truck-climbing lane.

Other improvements such as replacing and upgrading existing metal beam guardrails, replacing dikes, removing and reinstalling rumble strips, extending culverts and replacing inlets in the median, upgrading bridge railings, and repairing/replacing bridge abutment Rock Slope Protections (RSP) will also be incorporated. The features below will be included with the applicable recommended strategies provided in this MR:

- Widen existing bridges toward the median to manage the traffic handling during construction.
- Hydroseed the median for erosion control and restore vegetation as an environmental rehabilitation.

2.3 Climate

The project site is located in "Desert" climate as illustrated in the Caltrans Pavement Climate Region (2005). The available closest observation site is located in Hayfield Pump PLT, CA and has data recorded from 07/01/1933 to 06/09/2016. This data was obtained from Western Regional Climate Center (www.wrcc.dri.edu) at the Hayfield Station (043855). A summary of climate data is provided in Table 2.

Table 2 – Summary of Climate Data

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Average Max. Temperature (°F)	65.5	69.3	74.6	82.2	90.4	99.3	104.6	103.1	98.5	87.3	74.6	66.5	84.7
Average Min. Temperature (°F)	38.9	42.1	46.0	52.0	59.6	66.8	75.0	74.2	66.9	55.8	45.5	39.2	55.2
Average Total Precipitation (inch)	0.70	0.53	0.42	0.11	0.06	0.01	0.29	0.51	0.42	0.26	0.25	0.55	4.13
Average Total Snowfall (inch)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Average Snow Depth (inch)	0	0	0	0	0	0	0	0	0	0	0	0	0

The total average precipitation for a calendar year is 4 inches. The warmest months are July and August with an average high of 104.6°F and 103.1°F, respectively and an average low of 75.0°F and 74.2°F, respectively. The coolest month is January with an average high of 65.5°F and an average low of 38.9°F.

3.0 EXISTING STRUCTURAL SECTIONS

3.1 As-Built Plans

As-built plans reviewed to evaluate the existing structural sections were obtained from the following EAs: 037584, 037524, 154214, 192534, 191344, 120634, 202104-B, 4612U4, and 0L9604. Based on the review of as-built plans, a summary of the existing pavement structural sections is provided in Tables 3A and 3B for eastbound and westbound mainline lanes, respectively. A summary of selected as-built information is presented in Table 3C.

Table 3A – Summary of Existing Structural Sections for Eastbound

Post Mile	Mainline Lanes		Shoulders	
			Inside	Outside
PM 60.9/61.2	Lane 1 & 2	0.64' AC 0.67' AB	First 2': 0.58' AC/ 0.57' to 0.67'AB Remaining 3': 0.25' AC/ 0.75' to 0.90' AB	0.42' to 0.58' AC 0.33' to 0.67' AB
PM 61.2/62.0	Lane 1 & 2	0.89' to 0.95' AC 0.67' AB	First 2': 0.88' AC/ 0.57' to 0.67' AB Remaining 3': 0.55' AC/ 0.75' to 0.90' AB	0.62' to 0.88' AC 0.33' to 0.67' AB
PM 62.0/68.0	Lane 1 & 2	1.22' to 1.28' AC 0.67' AB	First 2': 0.88' AC/ 0.57' to 0.67' AB Remaining 3': 0.55' AC/ 0.75' to 0.90' AB	0.62' to 1.10' AC 0.33' - 0.67' AB
PM 68.0/74.0	Lane 1 & 2	0.87' to 0.93' AC 0.67' AB	First 2': 0.48' AC/ 0.57' to 0.67' AB Remaining 3': 0.15' AC/ 0.75' to 1.0' AB	0.32' to 70' AC 0.33' - 0.67' AB

NOTES:
- Existing structural section thicknesses were estimated based on the initial construction and subsequent pavement improvement activities.
- AC: Asphalt Concrete; AB: Aggregate Base.

Table 3B – Summary of Existing Structural Sections for Westbound

Post Mile	Mainline Lanes		Shoulders	
			Inside	Outside
PM 60.9/62.0	Lane 1 & 2	0.54' to 0.60' AC 0.67' AB	First 2': 0.48' AC/ 0.57' to 0.67' AB Remaining 3': 0.15' AC/ 0.75' to 0.90' AB	0.32' to 0.48' AC 0.33' to 0.67' AB
PM 62.0/74.0	Lane 1 & 2	0.81' to 0.87' AC 0.67' AB	First 2': 0.48' AC/ 0.57' to 0.67' AB Remaining 3': 0.15' AC/ 0.75' to 1.0' AB	0.32' to 70' AC 0.33' to 0.67' AB

NOTES:
- Existing structural section thicknesses were estimated based on the initial construction and subsequent pavement improvement activities.
- AC: Asphalt Concrete; AB: Aggregate Base.

Table 3C – Summary of Selected As-built Information

As-built Year	EA	Post Mile	Improvements
1962	037584	PM 59.5/69.8	Original Mainline Lane and Shoulder Construction
1964	037524	PM 69.1/80.7	Original Mainline Lane and Shoulder Construction
1978	154214	PM R62.0/R85.8	0.22'AC Overlay
1979	192534	PM R62.6/R68.0	EB Only: 0.25' AC Remove and Replace
1988	120634	PM R61.2/R68.0	EB Only: Lane 2: 0.35'AC Remove and Replace Lanes 1 and 2: 0.25' AC Overlay
2002	4612U4	PM R60.9/R80.8	EB and WB Mainline Lane: Cold Plane (0.10' to 0.15') and Overlay AC (0.30' to 0.35')
2008	0L9604	PM R60.9/R74.0	EB and WB Mainline Lane: Cold Plane (0.06') and Overlay RHMA-O (0.06')

NOTE:
- Selected as-built information related to pavement improvement is presented. For complete information, please refer to as-built plans.

3.2 Ground Penetrating Radar (iGPR Software)

iGPR is a software tool, which provides the depth of layers for the existing roadway structural sections detected by ground penetrating radar. iGPR data was reviewed to verify the as-built structural sections provided in Tables 3A and 3B.

Based on the review of the iGPR data, a summary of existing pavement structural sections is provided in Tables 4A and 4B for eastbound and westbound respectively. Detailed graphs representing these values are also provided in Appendix A.

Table 4A – Summary of Existing Structural Sections (Eastbound)

Post Mile	Mainline Lanes	
PM 60.0/61.0	Lane 1	0.70' PCC/0.30' CTB/0.80' AB
PM 61.0/67.0	Lane 1	1.20' HMA
PM 67.0/74.0	Lane 1	0.90' HMA/0.50' AB
PM 60.0/61.0	Lane 2	0.75' PCC/0.50' CTB
PM 61.0/67.0	Lane 2	1.20' HMA/0.65' AB
PM 61.0/71.0	Lane 2	0.80' HMA
PM 71.0/74.0	Lane 2	0.80' HMA/0.80' AB
NOTE: • Structural sections obtained from iGPR did not present the similar structural sections shown in the as-built plans.		

Table 4B – Summary of Existing Structural Sections (Westbound)

Post Mile	Mainline Lanes	
PM 60.0/61.5	Lane 1	0.75' HMA/0.70' PCC
PM 61.5/63.0	Lane 1	0.75' HMA/1.00' PCC
PM 63.0/65.5	Lane 1	0.75' HMA/0.75' PCC
PM 65.5/66.5	Lane 1	0.75' HMA/0.90' PCC
PM 66.5/68.0	Lane 1	0.75' HMA/0.50' AB
PM 68.0/70.5	Lane 1	0.75' HMA/0.25' AB
PM 70.5/74.0	Lane 1	0.80' HMA/0.60' AB
PM 60.0/61.5	Lane 2	0.70' HMA/0.50' AB
PM 61.5/66.0	Lane 2	0.70' HMA/0.65' AB
PM 66.0/67.0	Lane 2	0.70' HMA/0.75' AB
PM 67.0/71.5	Lane 2	0.70' HMA/0.60' AB
PM 71.5/74.0	Lane 2	0.80' HMA/0.50' AB
NOTE: • Structural sections obtained from iGPR did not present the similar structural sections shown in the as-built plans.		

3.3 Automated Pavement Condition Survey

Automated Pavement Condition Survey (APCS) available from PaveM online website was reviewed to evaluate the existing pavement condition. The original measurements were taken in 2018.

As of the Year 2019, the existing pavement surface condition varied from "fair" to "good." Average alligator cracks A and B were less than 12% and less than 6%, respectively. Mean Roughness Index (MRI) ranged from less than 60 inch/mile to 235 inch/mile. In 2022, average alligator cracks A and B are anticipated to be 19% and 10%, respectively. MRI is anticipated to range from 60 inch/mile to greater than 300 inch/mile. Graphical plots of pavement conditions are provided in Appendix B.

3.4 H-chart

The H-Chart is a tool that illustrates the past projects on a specific segment of highway. It is a bar graph, which uses various colors and textures to illustrate pavement improvements. The available H-chart is presented in Appendix C.

4.0 GEOLOGY AND SUBSURFACE CONDITIONS

4.1 Geology and Terrain

The project alignment is located within the Colorado Desert and Mojave Desert geomorphic provinces. Within California, these geomorphic provinces encompass an area that extends from the Colorado River on the east, the Mexican border on the south, and the Peninsular Ranges on the west. The eastern Transverse Ranges borders the Colorado Desert on the north. The Colorado Desert Province, dominated by the Salton Sink, is a low-lying, pull-apart basin formed by movement of the San Andreas Fault and the East Pacific Rise. The Mojave Desert Geomorphic Province is composed of isolated mountain ranges separated by desert plains. The portions of the provinces are characterized by broad alluvial valleys separated by steep, discontinuous, sub-parallel mountain ranges that generally trend northwest-southeast.

Based on a review of the published geologic maps, United States Department of Agriculture (USDA) web soil data, site-specific subsurface exploration, and site reconnaissance, the project alignment is generally underlain by the geologic units Q_a, Q_{o-u} and qm. Surficial deposits of eolian sand (blow sand), gravels and minor fill are also present across portions of the site. A regional geologic map is shown in Figure 3.

Quaternary alluvium (Q_a) was deposited during the Holocene (<11,700 years ago). It consists of unconsolidated and undissected deposits of clays, silts, sands, and gravels of the valley areas (Dibblee, 2008). These sediments are generally underlain by Pleistocene older alluvial sediments at depth.

The upper unit of the Ocotillo Formation (Q_{o-u}) that is present within much of the project alignment consists primarily of a grey boulder conglomerate. This formation was deposited during the Pleistocene to Pliocene (5.33 million to 11, 700 years ago) in a terrestrial environment (Dibblee, 2008).

Mesozoic and older (>66 million years old) plutonic and metamorphic rocks are also present in some locations. Rock types include quartz monzonite (qm); grey biotite-rich granodiorite to quartz diorite (grd); aplitic, pink granite (gr); and dark grey, foliated gneiss and mica schist to phyllite (gn) (Dibblee, 2008).

The ground surface elevation along the project alignment varies from approximately 100 feet at PM R60.7 to approximately 1,400 feet at PM R74.3.

4.2 Surface Water and Groundwater

Surface water was not observed along the project alignment during Materials Staffs' site reconnaissance. Groundwater was not encountered in the borings performed to a maximum depth of 5 feet below the existing ground surface. Based on the DWR water data library (http://www.water.ca.gov/waterdatalibrary/), depth to groundwater measured in Well 06S11E16E001S, located close to PM R74.3, was deeper than 200 feet

during the recorded period, 1935 to 1995. No groundwater data was available near PM R60.7 or along the project alignment.

It should be noted that fluctuations in the level of groundwater may occur due to variation in precipitation, temperature, and other factors. Depth to groundwater can also vary significantly due to localized pumping, irrigation practices, and seasonal fluctuations. Therefore, it is possible that groundwater will be higher or lower than the level reported.

Based on the above considerations, it is concluded that subsurface groundwater is not expected to affect the proposed improvement.

5.0 FIELD EXPLORATION AND LABORATORY TESTING

5.1 Soil Sampling

Field exploration was conducted on November 28, 2018 by Materials Engineering Unit. Fourteen (14) soil boring locations were marked on the unpaved median and outside shoulder. Underground Service Alert (USA) was notified prior to performing soil borings. A 6-inch diameter hollow stem auger or hand auger was utilized to obtain soil samples. Soil samples collected from upper 5 feet were stored in bulk bags and transported to Southern California Regional Laboratory (SRL) for testing.

5.2 Bridge Coring

Bridges within the project limits consist of a concrete deck and no core sample was obtained.

5.3 Laboratory Testing

Soil samples were tested to evaluate the physical characteristics and engineering properties of the subsurface materials. Following laboratory soil tests were conducted:

- CT 201……Soil Sample Preparation
- CT 202……Sieve Analysis (Fine and Coarse Grade)
- CT 204……Plasticity Index
- CT 301……R-Value
- CT 417……Sulfate Content
- CT 422……Chloride Content
- CT 643……Soil Resistivity and pH

Laboratory tests were performed by SRL and conducted in accordance with the California Test (CT) methods. Summary of laboratory results are presented in Table 5 and detailed laboratory tests are included in Appendix D.

Table 5 – Summary of Laboratory Test Results

Boring Number	PM	Latitude (degree)	Longitude (degree)	R-Value	LL (%)	PI (%)	USCS Soil Type
A-18-001	61.0	33.7098	-116.1507	71	NP	NP	SW-SM
A-18-002	62.0	33.7048	-116.1343	74	NP	NP	SW-SM
A-18-003	63.0	33.7007	-116.1171	58	NP	NP	SM
A-18-004	64.0	33.6980	-116.1010	70	NP	NP	SW-SM
A-18-005	65.0	33.7000	-116.0851	74	NP	NP	SW-SM
A-18-006	66.0	33.6991	-116.0656	70	NP	NP	SW-SM
A-18-007	67.0	33.6932	-116.0527	66	NP	NP	SW-SM
A-18-008	68.0	33.6881	-116.0360	74	NP	NP	SW-SM
A-18-009	69.0	33.6832	-116.0144	52	NP	NP	SW
A-18-010	70.0	33.6794	-115.9972	77	NP	NP	GW
A-18-011	71.0	33.6796	-115.9790	74	NP	NP	SW-SM
A-18-012	72.0	33.6785	-115.9652	61	23	4	SC-SM
A-18-013	73.0	33.6757	-115.9492	74	NP	NP	GW-GM
A-18-014	74.0	33.6723	-115.9294	63	NP	NP	GW-GM

NOTES:
- LL= Liquid Limit
- PI = Plasticity Index
- NP= Nonplastic
- USCS = Unified Soil Classification System

5.4 Deflection Study

The methods involving deflection study consist of measuring the total deflection resulting from a load applied on the surface of a flexible pavement. Structural adequacy recommendations are based on the asphalt concrete (AC) thickness, 80th percentile deflection, and the tolerable deflection at the surface (TDS).

Prior to conducting deflection studies, desk study was performed by the team:

- Review as-built plans to estimate the existing structural sections.
- Obtain the design Traffic Index (TI).
- Schedule maintenance crew and SRL for traffic control and coring.

Based on discussions with the Project Engineer, deflection measurements were recorded on the outside lane only. Materials Engineering Unit follows the procedure (CTM 356) that uses a falling weight deflectometer (FWD). An FWD provides an impulse load that can be varied depending on the height of fall and mass used. Then, the sensor placed at the center of a loading plate measures the motion induced in the pavement. Two Methods are available for analysis to determine the rehabilitation strategy. For this study, Method A was practiced, which consisted of measuring the deflection at 80-m (0.05 mile) intervals in the outside wheel path to obtain 21 deflection measurements per one (1) lane-mile in accordance with CT 356.

Required field work for the deflection study involves obtaining cores at approximately every 800 meters; cores were retrieved from the outside wheel path of the tested lane.

6.0 PAVEMENT DESIGN PARAMETERS

6.1 Traffic Data

The following Annual Average Daily Traffic (AADT), Annual Average Daily Truck Traffic (AADTT), and Traffic Index (TI) values were provided in the memorandum dated 04/16/2018 from the Office of Traffic Forecasting (See Appendix E). The AADT, AADTT, and TI values are presented in Tables 6 through 8, respectively. Based on discussion with the Design Team, a TI Value corresponding to a 3-Year design period was estimated using the Traffic Information provided in the memorandum.

Table 6 – List of AADT Values

Forecasted Period	RIV-10 (PM 60.7/74.3)
Year 2018	28,000
Year 2020	28,900
Year 2026	32,100
Year 2046	45,300
Year 2066	59,700

Table 7 – List of AADTT Values

Forecasted Period	RIV-10 (PM 60.7/74.3)
Year 2018	14,280
Year 2020	14,740
Year 2026	16,370
Year 2046	23,100
Year 2066	30,450

Table 8 – List of TI Values

Forecasted Period [1]	RIV-10 (PM 60.7/74.3)	
	Travel Lanes 1 and 2	
	Mainline	Shoulder
3-Year [2]	12.0	-
10-Year	14.5	9.0
20-Year	16.0	10.0
40-Year	18.0	11.5

NOTES:
(1). Based on Construction Completion Acceptance (CCA) year 2026.
(2). Extrapolated from Traffic Data provided in Memo.

6.2 Pavement Design Life

In accordance with HDM Index 612.2, pavement design life for reconstruction projects should be 40 years. In accordance with HDM Index 612.5, the minimum pavement design life for roadway rehabilitation projects should be 20 years or 40 years (AADTT > 12,000 in CCA year 2026) depending on which design life has the lowest life-cycle costs. The concrete overlay (white topping) is designed for a 40-year design life.

6.3 Resistance Value and Subgrade Type

Soil samples obtained within the project limit showed that R-values ranged from 52 to 77. Materials encountered during field exploration are predominantly Well-Graded Sand with Silt (SW-SM). Based on the HDM Index 614.3 guidelines, an R-value of 50 is selected for flexible pavement design and Subgrade Type I is chosen for rigid pavement design.

Table 9 provides the subgrade design parameters for Flexible and Rigid pavement design.

Table 9 – Subgrade Design Parameters

Location	R-Value	USCS Soil Type	Subgrade Type
PM 60.7/74.3	50	SW-SM, GW-GM, SM, SW, SC-SM	I

7.0 PAVEMENT RECOMMENDATIONS

Pavement improvement strategies such as concrete overlay (white topping), reconstruction, and rehabilitation are evaluated for existing mainline lanes and shoulders. Concrete overlay (white topping) practice involves milling the portion of AC layer and placing a leveling course, prior to concrete overlay. Per discussions with the design team, the existing profile can be raised to maximum 1-foot. In addition, pavement recommendations are provided for detour in the median, which will subsequently be converted to a 12-foot eastbound general purpose lane 1 with a 10-foot inside shoulder to facilitate eastbound truck-climbing lane.

Pavement structural recommendations are provided utilizing TI values (Section 6.1), pavement design life (Section 6.2) and Subgrade Types and R-values (Section 6.3). Rigid pavement sections were obtained using the procedure described in Index 620 of HDM (2017). Based on discussions with Design Team and Headquarters, JPCP structural sections will also be provided in this MR for desert climate region.

Flexible pavement structural sections were obtained by employing CalFP version 1.5, a computer program based on design methodology, as documented in Chapter 630 of the HDM. The empirical method (CalFP) cannot be used to estimate flexible pavement structural sections for TIs greater than 15. The web-based CalME program which utilizes mechanistic-empirical method for any TI value, is currently an experimental program; therefore, Materials Engineering Unit does not provide flexible pavement structural sections for mainline lanes that have TIs greater than 15.

7.1 Concrete Overlay (White topping)

The recommended structural sections provided in Table 10 for concrete overlay (white topping) are based on results retrieved from mechanistic-empirical analysis performed by Headquarters. Materials Engineering Unit recommends milling the existing AC layer and placing an HMA leveling course prior to concrete overlay.

Table 10 – Recommended Structural Sections for Concrete Overlay (EB and WB)

Alternatives	Design Life	Structural Sections		Increase Above Existing Grade
		Mill Depth (2)	Concrete Overlay (3)	
CRCP Overlay	40-Year	0.20' AC	1.10' CRCP 0.20' HMA-A	1.1 foot
JPCP Overlay	40-Year	0.20' AC	1.00' JPCP 0.20' HMA-A	1.0 foot

NOTES:
(1). Applicable to mainline lanes and outside shoulder. Construct new eastbound general purpose lane 1 and the inside shoulder by choosing the pavement options provided in Table 11.
(2). Remove existing inside shoulders to a depth of 0.50' and place 0.20' HMA-A prior to constructing overlay sections.
(3). Mechanistic-Empirical design calculations were performed by HQ.

Majority of existing inside shoulder consists of 0.15' to 0.50' AC over base. Materials Engineering Unit recommends removing the inside shoulder to a depth of 0.50' and placing 0.20' HMA-A prior to constructing overlay sections.

Construct new eastbound general purpose lane 1 and the inside shoulder by choosing the pavement options provided in Table 11 for reconstruction.

7.2 Reconstruction

Recommended pavement structural sections for reconstruction are provided in Table 11.

Table 11 – Recommended Structural Sections for Reconstruction (EB and WB)

Alternatives	Mainline lanes, Outside shoulder and first 1-foot of inside shoulder	Remaining Inside Shoulder		
		Option 1 (1)	Option 2 (2,4)	Option 3 (3,4)
CRCP mainline lane	1.10' CRCP 0.30' HMA-A	1.10' CRCP 0.30' HMA-A	0.20' RHMA-G (5) 0.45' HMA-A 0.70' AB Class 2	0.95' JPCP 0.30' HMA-A
JPCP mainline lane	1.20' JPCP 0.30' HMA-A	1.20' JPCP 0.30' HMA-A	0.20' RHMA-G (5) 0.45' HMA-A 0.70' AB Class 2	0.95' JPCP 0.30' HMA-A

NOTES:
(1). Option 1 is preferred if there is an identified plan to convert the inside shoulder into a traffic lane within the next 20 years.
(2). Option 2 may be selected if flexible pavement section provided in Table 13 is used to construct detour pavement in the inside shoulder/median to facilitate stage construction.
(3). Option 3 may be selected if rigid pavement section provided in Table 13 is used to construct detour pavement in the inside shoulder/median to facilitate stage construction.
(4). Since detour/inside shoulder is to be constructed prior to mainline lane reconstruction, total shoulder thickness does not need to match grading plane of mainline lane.
(5). After completion of stage construction, Materials Engineering Unit recommends improving the inside shoulder by cold planing 0.20 feet and overlaying with 0.20 feet RHMA-G.

7.3 Rehabilitation

For the purposes of this MR, two rehabilitation strategies are analyzed and presented: Mill and Overlay and Partial Depth Remove and Replace. The rehabilitation strategies are governed by the Structural Adequacy criteria and are based on a 20-Year Design Life and a TI Value of 16.0. The web-based CalME program which utilizes mechanistic-empirical method for any TI value, is currently an experimental program; therefore, Materials Engineering Unit does not provide rehabilitation strategies for a 40-Year Design Life.

A Deflection Study was conducted to evaluation rehabilitation strategies as described in Section 5.4. After deflection data was complied, appropriate groupings were made to correlate the best rehabilitation strategy to proceed with, which was based on similar engineering parameters from collected data per HDM Index 635.2(3)(c). Deflection

analyses and results are provided in Appendix F. Table 12 provides the grouping that was applied for the analysis.

Table 12 – Grouping Coring and Deflection Data (EB and WB)

Direction	Group	Location
EB	1	PM 60.70/65.00
	2	PM 65.00/68.00
	3	PM 68.00/69.00
	4	PM 69.00/70.00
	5	PM 70.00/74.30
WB	1	PM 60.70/64.00
	2	PM 64.00/65.00
	3	PM 65.00/70.00
	4	PM 70.00/74.30

For EB direction, Materials Engineering recommends milling 0.30' and overlaying with 0.20' RHMA-G / 0.30' HMA-A for the mill and overlay option. For implementing Partial Depth Remove and Replace strategy, Materials Engineering Unit recommends removing a depth of 0.60' and placing 0.20' RHMA-G / 0.40' HMA-A.

For the WB direction, Materials Engineering recommends milling 0.30' and overlaying with 0.20' RHMA-G / 0.40' HMA-A for the mill and overlay option. For implementing Partial Depth Remove and Replace strategy, Materials Engineering Unit recommends removing a depth of 1.0' and placing 0.20' RHMA-G / 0.80' HMA-A.

7.4 Stage Construction and Eastbound Widening

A detour pavement is required to shift I-10 mainline traffic (existing lanes 1 and 2) towards the median to facilitate mainline lane and shoulder reconstruction/concrete overlay (white topping). To facilitate eastbound truck-climbing lane, detour pavement will subsequently be converted to a 12-foot eastbound general purpose lane 1 with a 10-foot inside shoulder.

Materials Engineering Unit recommends matching inside shoulder structural sections to the mainline lane if there is an identified plan to convert the inside shoulder into a traffic lane within the next 20 years. If flexible pavement is selected for detour, improve inside shoulder by cold planing 0.20 feet and overlaying with 0.20 feet RHMA-G after completion of stage construction; the remaining detour width (paved median) should be striped to prevent use from traveling public.

Table 13 provides the recommended pavement structural sections.

Table 13 – Recommended Pavement Sections for Stage Construction

Location	Rigid Pavement		Flexible Pavement
	CRCP option	JPCP option	
First 13' of Detour Pavement (Future Lane 1 with 1-foot inside shoulder)	1.10' CRCP 0.30' HMA-A	1.20' JPCP 0.30' HMA-A	Not used
Remaining Detour Pavement (includes remaining future inside shoulder (1))	Not used (see note 1)	0.95' JPCP 0.30' HMA-A (see note 1)	0.65' HMA-A 0.70' AB Class 2

NOTE:
(1). For the new inside shoulder, match future lane 1 structural section if there is an identified plan to convert the inside shoulder into a traffic lane within the next 20 years.

7.5 Ramp Improvements

This project will construct rigid ramp transitions and will perform CAPM (Capital Preventive Maintenance) strategy for the existing flexible pavement ramps.

7.5.1 Ramp Transitions

The project proposes to construct rigid ramp transitions. The Office of Traffic Forecasting recommends "Heavy" Truck Traffic Classification for the ramp. In accordance with HDM Table 613.5A, a TI value of 14 was selected for 40-Yr design life.

Materials Engineering Unit recommends a minimum 55-hour closure for Jointed Plain Concrete Pavement – Rapid Strength Concrete (JPCP-RSC). If a 10-day closure is feasible, Jointed Plain Concrete Pavement – Intermediate Strength Concrete (JPCP-ISC) may be considered in lieu of JPCP-RSC. Headquarters should review the plans/estimate and approve the use of JPCP-ISC. During 100% PS&E submittal process, consult with Materials Engineering Unit to obtain the latest nSSPs for JPCP-ISC and JPCP-RSC as applicable. Table 14 provides the recommended structural section for the ramp transitions.

Table 14 – Recommended Structural Sections for Ramp Transitions

Location	TI	Design Life	Subgrade Type	Structural Section (1,2,3,4)
Ramp Transitions	14.0	40-Year	Type I	Option 1 1.00' JPCP/0.30' HMA-A Option 2 1.00' JPCP-ISC/0.30' HMA-A Option 3 1.00' JPCP-RSC/BB(5)/0.35' LCBRS Option 4 0.90' CRCP/0.30' HMA-A

NOTES:
(1). Option 1 is preferred; a 28-day closure is required.
(2). A minimum 10-day closure is required for Option 2.
(3). If option 3 is chosen, Materials Engineering Unit recommends a minimum 55-hour closure.
(4). Option 4 should be selected if the mainline lane is CRCP.
(5). Bond breaker (BB) should follow 2018 Caltrans Standard Specification Section 36-2.

7.5.2 Ramp Gore Area

For rigid mainline pavement, ramp gore areas (including the ramp travelled way adjacent to the gore area) should be constructed with rigid pavement (see HDM Figure 626.1 and refer to HDM Topic 626.1[2]) in order to minimize deterioration of the joint between the flexible and rigid pavement. To optimize constructability, outside shoulder structural sections provided in Section 7.2 should be perpetuated through the gore area.

7.5.3 Capital Preventative Maintenance (CAPM) Strategy

Materials Engineering Unit recommends to cold plane 0.20 feet and overlay with 0.20 feet RHMA-G for the flexible pavement ramps.

7.6 Miscellaneous Areas

Per discussion with the Project Engineer, California Highway Patrol (CHP) turnarounds will be constructed within the project limits. Table 15 provides the recommended structural section for the CHP Turnarounds.

Table 15 – Recommended Structural Sections for CHP Turnarounds

Location	TI	R-Value (Subgrade Type)	Flexible Pavement Option	Rigid Pavement Option
CHP Turnarounds	6.0	50 (Type I)	0.35' HMA-A/ 0.35' AB Class 2	0.75' JPCP/ 0.50' AB Class 2

8.0 CORROSION POTENTIAL AND CULVERTS

Culverts and drainage facilities require a 50-Year maintenance free design life. Factors that contribute to corrosion include presence of soluble sulfate, chloride, pH, and resistivity. Materials Engineering Unit understands that minimal drainage work may be performed within the project limits. Fourteen (14) soil samples were obtained within the project limits and were tested in accordance with the California Test methods. Laboratory test results are summarized in Table 16 and are presented in Appendix D.

Table 16 – Summary of Corrosion Test Results

Boring Name	Post Mile	Sample Depth (feet)	Soil pH	Minimum Resistivity (ohm-cm)	Sulfate Content (ppm)	Chloride Content (ppm)
A-18-001	61.0	5.0	7.4	5,184	55	8
A-18-002	62.0	5.0	7.8	**607**	200	15
A-18-003	63.0	5.0	8.2	**546**	**2,670**	62
A-18-004	64.0	5.0	7.6	1,503	106	40
A-18-005	65.0	5.0	8.2	1,683	307	21
A-18-006	66.0	5.0	8.9	5,919	418	5.8
A-18-007	67.0	5.0	7.7	5,982	44	15
A-18-008	68.0	5.0	7.6	**257**	1,433	**1,722**
A-18-009	69.0	5.0	8.1	2,468	179	7
A-18-010	70.0	5.0	8.4	4,110	36	8
A-18-011	71.0	5.0	8.1	3,987	67	11
A-18-012	72.0	5.0	8.6	2,532	136	14
A-18-013	73.0	5.0	8.3	4,302	70	9
A-18-014	74.0	5.0	8.3	3,389	125	10

A site is considered corrosive if one or more of the following conditions exist for the representative soil samples (Caltrans, March 2018):

- Chloride concentration is 500 ppm or greater,
- Sulfate concentration is 1,500 ppm or greater, or
- pH is 5.5 or less.

The resistivity less than 1,000 ohm-cm indicates the presence of high quantities of soluble salts and a higher propensity for corrosion. Soil and water that have a minimum resistivity less than 1,100 ohm-cm require more testing for chlorides and sulfates.

Laboratory test results concluded that two soil samples (A-18-003 and A-18-008) are corrosive. Table 17 provides the approximate locations which will be considered corrosive for this project.

Table 17 – Corrosive Locations

Boring Name	Post Mile [1]	Corrosive Criteria
A-18-003	PM 62.0/64.0	Sulfate Content = 2,670 ppm
A-18-008	PM 67.0/69.0	Chloride Content = 1,722 ppm

NOTE:

1. Other than the post mile limits stated above, the site is classified as "non-corrosive" in accordance with Caltrans Corrosion Guidelines version 3.0 (Caltrans, 2018).

9.0 MATERIAL SPECIFICATIONS

The proposed project follows 2018 Caltrans Standard Specifications and Standard Plans.

9.1 Earthwork

- Clearing and grubbing is recommended per section 17-2 of Standard Specifications, to remove vegetation, topsoil, and any artificial fills or debris, and to prepare the site for the proposed facilities.
- Earthwork should conform to Section 19 of Standard Specifications.
- The subgrades for paved areas should be compacted to a minimum relative compaction of 95% per Section 19-5.03 of the Standard Specifications.
- Any imported materials should conform to requirement described in Section 19-7 of Standard Specifications and must have a minimum R-value of 50.

9.2 Base Materials

- Aggregate Base should be Class 2 and conform to Section 26 of Standard Specifications.
- Aggregate Subbase should be Class 2 and conform to Section 25 of Standard Specifications.

9.3 Rigid Pavement

- Jointed Plain Concrete Pavement should conform to Section 40 of Standard Specifications.
- Continuously Reinforced Concrete Pavement should conform to Section 40 of Revised Standard Specifications.
- Jointed Plain Concrete Pavement with Rapid Strength Concrete, and Jointed Plain Concrete Pavement with Intermediate Strength Concrete should conform to nSSP Sections 40-5 and 40-6, respectively.
- Hot Mix Asphalt Type A base should conform to Section 39 of Standard Specifications.
- Lean Concrete Base should conform to Section 28-2 of Standard Specifications.
- Lean Concrete Base Rapid Setting should conform to Section 28-4 of Standard Specifications.
- Base bond breaker should conform to Section 36-2 of Standard Specifications.

Consult with Materials Engineering for the appropriate nSSPs for JPCP-ISC and JPCP-RSC.

9.4 Flexible Pavement

- Hot Mix Asphalt (HMA-A) should conform to Section 39 of Standard Specifications.
- Asphalt binder for HMA-A should be PG 64-28M.
- Prime Coat shall be applied to base material prior to placing hot mix asphalt concrete.
- Tack Coat shall be applied to the existing AC surface and between successive layers of HMA-A.
- Lime Slurry Marination is required for I-10 within the project limits and should conform to SSP 39-2.01B.

9.5 Isolation Joint

Construction of longitudinal isolation joint is required between different rigid pavement types (CRCP and JPCP) to prevent progression of transverse cracks due to differential movement caused by temperature gradient. Isolation joint filler should extend to the depth of the new rigid pavement. Materials Engineering Unit recommends silicone sealant for sealing isolation joints. Construction of isolation joints should follow 2018 Standard Plan P18.

9.6 Smoothness

Pavement smoothness requirements for new pavement should follow HQ approved nSSP Sections 36-3, 39-2, and 40-1. During 100% PS&E submittal process, consult with Materials Engineering Unit to obtain the latest nSSPs for smoothness requirements.

10.0 CLOSURE

This Materials Report was prepared for the proposed project based on information provided by Design O. If any change (i.e., structure type, location, scope of the project etc.) is implemented which materially alters the project, recommendation contained in this report may need to be revised.

The data, opinions, and recommendations contained in this report are applicable to the specific design element(s) and location(s) that is (are) the subject of this report. They have no applicability to any other design elements or to any other locations. Any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent from Materials Engineering Unit.

These findings and recommendations were obtained in accordance with generally accepted professional principles in Materials Engineering and are based on current Highway Design Manual.

If you have any questions, please contact authors of this MR at (909) 888-2090.

11.0 REFERENCE

- Caltrans, CalFP, A Computer Program, Version 1.5.
- Caltrans, Corrosion Guideline Version 3.0, March, 2018.
- Caltrans, Highway Design Manual – Sixth Edition, November, 2017.
- Caltrans, 2018 Standard Specifications.
- Caltrans, 2018 Standard Plans.
- Caltrans, Concrete Pavement Guide, January, 2015.
- Caltrans, Maintenance Technical Advisory Guide – Rigid Pavement Preservation, December, 2007.
- CPTC, Unbonded Concrete Overlay Guide.

12.0 ATTACHMENT

The following figures and appendices are included and complete this MR.

Figure 1	-	Vicinity Map
Figure 2	-	Site Location map
Figure 3	-	Regional Geologic Map

Appendix A	-	iGPR
Appendix B	-	APCS Data
Appendix C	-	H-Chart Data
Appendix D	-	Laboratory Test Results
Appendix E	-	Traffic Forecasting Memo
Appendix F	-	Deflection Study Results and Coring Data

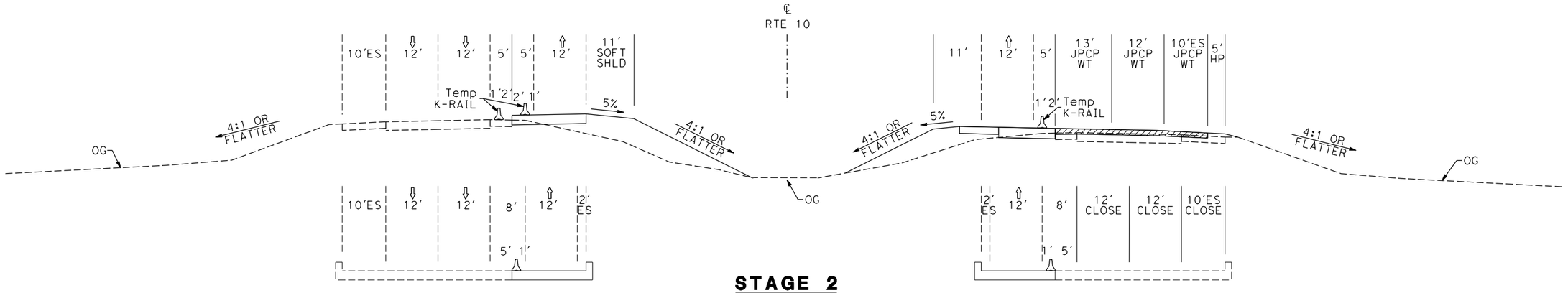
ATTACHMENT H

DETOUR OPTIONS

STAGE CONSTRUCTION

LEGEND:

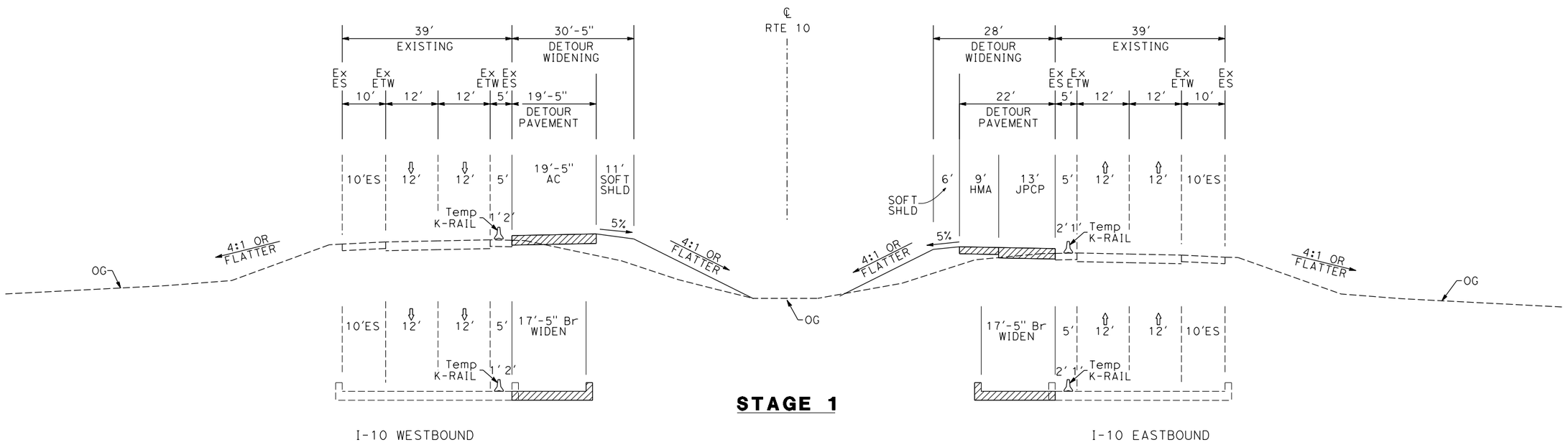
CONSTRUCTION ZONE



STAGE 2

I-10 WESTBOUND

I-10 EASTBOUND



STAGE 1

I-10 WESTBOUND

I-10 EASTBOUND

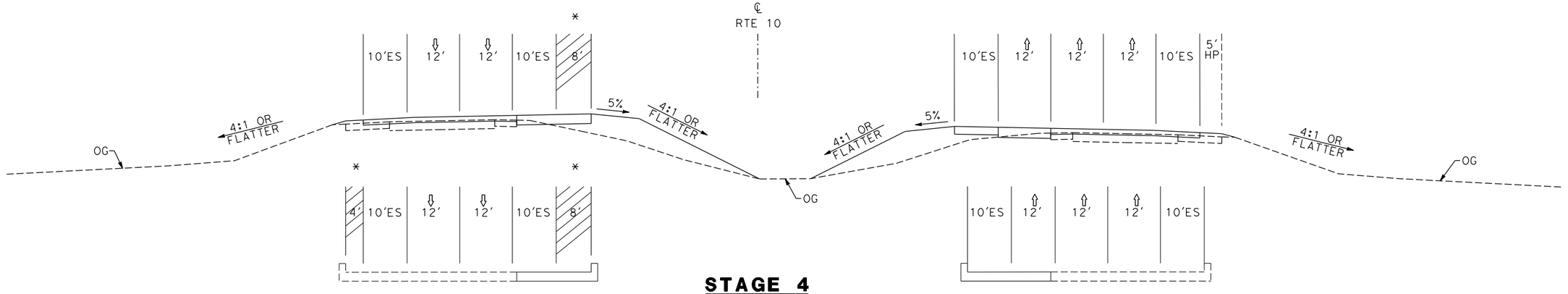
WIDEN BOTH EASTBOUND AND WESTBOUND ROADBEDS

NO SCALE

ATTACHMENT H

DETOUR OPTION 1

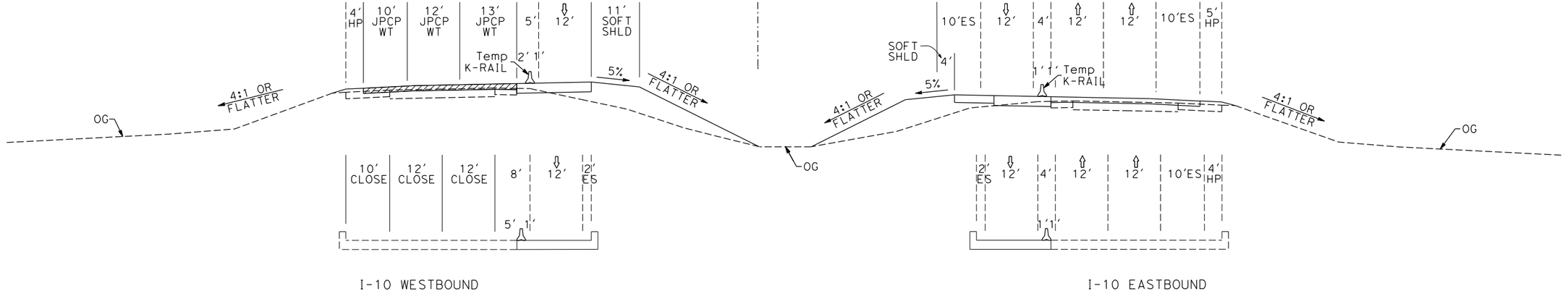
* FINAL STRIPING/DIAGONAL CROSSHATCH MARKINGS / NO TRAFFIC



I-10 WESTBOUND

I-10 EASTBOUND

STAGE 4



I-10 WESTBOUND

I-10 EASTBOUND

STAGE 3

WIDEN BOTH EASTBOUND AND WESTBOUND ROADBEDS

NO SCALE

ATTACHMENT H

DETOUR OPTION 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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LEGEND

- PROPOSED CONCRETE PAVEMENT
- GENERAL PURPOSE LANE / TEMPORARY DETOUR LANE
- MEDIAN CROSSOVER
- BRIDGE WIDENING
- TRUCK-CLIMBING LANE
- COLD PLANE AC PAVEMENT
- CUT
- PROJECT FOOTPRINT
- RIGHT OF WAY
- DISTURBED AREA

R/W

R/W

BEGIN ENVIRONMENTAL STUDY
PM 60.7

WB ROUTE 10

EB ROUTE 10

R60.7

R60.8

R60.9

R/W

R/W

DETOUR STAGE CONSTRUCTION

SCALE: 1" = 50'

ATTACHMENT H

DETOUR OPTION 1

SHEET 3/7

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

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Caltrans

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R/W

SUNNY GULCH
BR 56-0202L
PM R66.184

REPLACE ROCK SLOPE PROTECTION

WB ROUTE 10

R66.1

R66.2

R66.3

EB ROUTE 10

REPLACE ROCK SLOPE PROTECTION

SUNNY GULCH
BR 56-0202R
PM R66.184

DETOUR STAGE CONSTRUCTION

SCALE: 1" = 50'

ATTACHMENT H

DETOUR OPTION 1

SHEET 4/7

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Caltrans

R/W

CACTUS CITY REST AREA

R/W

WB ROUTE 10

MATCH LINE

R72.2

R72.3

R72.4

EB ROUTE 10

R/W

R/W

DETOUR STAGE CONSTRUCTION

SCALE: 1" = 50'

ATTACHMENT H

DETOUR OPTION 1

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UNIT 2239

PROJECT NUMBER & PHASE 08160000871

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PLANS APPROVAL DATE

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Exp.
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Caltrans

CACTUS CITY REST AREA

R/W

R/W

WB ROUTE 10

R71.9

R72.0

R72.1

EB ROUTE 10

MATCH LINE

R/W

DETOUR STAGE CONSTRUCTION

SCALE: 1" = 50'

ATTACHMENT H

DETOUR OPTION 1

SHEET 5/7

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UNIT 2239

PROJECT NUMBER & PHASE 08160000871

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA -- DEPARTMENT OF TRANSPORTATION

Caltrans

HAZY GULCH
BR 56-0463L
PM R74.099

REPLACE ROCK SLOPE PROTECTION

R/W

END ENVIRONMENTAL STUDY
PM R74.3

WB ROUTE 10

EB ROUTE 10

R74.1

R74.2

R74.3

REPLACE ROCK SLOPE PROTECTION

HAZY GULCH
BR 56-0463R
PM R74.099

DETOUR STAGE CONSTRUCTION

SCALE: 1" = 50'

ATTACHMENT H

DETOUR OPTION 1

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UNIT 2239

PROJECT NUMBER & PHASE 08160000871

ATTACHMENT I

TYPICAL STRUCTURE WIDENING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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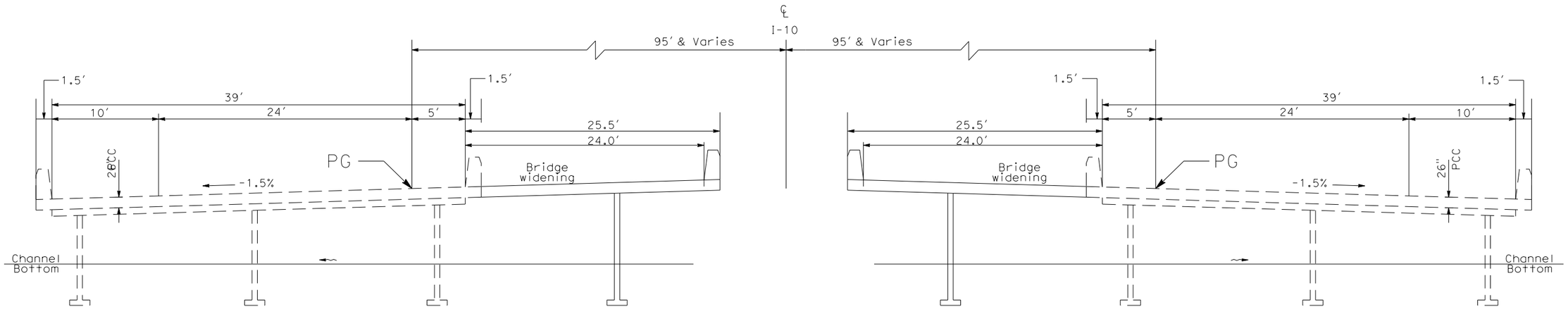
BRIDGE (RT & LT)
BRIDGE WIDENING
1C081



I-10 WESTBOUND

I-10 EASTBOUND

WIDEN ON BOTH ROADBEDS (WHITE TOPPING)

TYPICAL SECTION
BRIDGE WIDENING

NO SCALE

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Caltrans

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RELATIVE BORDER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000004

ATTACHMENT J

INITIAL SITE ASSESSMENT (ISA) CHECKLIST

INITIAL SITE ASSESSMENT (ISA) CHECKLIST UPDATE

DATE: **12/19/2019**

PROJECT INFORMATION

District **08** County **Riv** Route **10** Postmile **R60.7/R74.3** EA **1C081**
PN **0816000086**

Description of Work:

Pavement rehabilitation with installation of two detour lanes in the median and grading outside existing shoulders. Scope includes re-striping, after rehabilitation of existing lanes is complete, to make detour lane a general-purpose lane and designate outside lane as a truck climbing lane. Existing bridge railing will be replaced at all bridge locations.

Project Engineer **Tuan Truong** **(916) 651-5719**

Environmental Coordinator **Tatiana Torres** **(909) 383-7882**

DATE ISA NEEDED **ASAP**

Attach the project location map and an aerial photo to this checklist to show the location of proposed R/W and all known and/or potential hazardous waste sites.

1. Project Features: New R/W? **NO** Excavation? **YES** Railroad Involvement? **NO**
   Structure Demolition/Modification? **YES** Utility Relocation? **YES**
2. Project Setting: Rural - **YES** Urban - **NO**
   Current Land Uses: **Existing Freeway**
   Adjacent Land Uses: **Desert**
   (Industrial light industry, commercial, agriculture, residential, other)
3. Check Federal, State, and local environmental and health regulatory agency records as necessary to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets as needed to provide all information available pertinent to the proposed project. IS PROJECT
4. AFFECTING SITES LISTED ON CORTESE LIST? IF YES, DESCRIBE SITE:
5. Conduct Field Inspection **Google, GeoTracker and EnviroStor Maps** Date **08/16/2018**

Storage Structures/Pipelines:				**Contamination: (spills, leaks, illegal dumping, etc)**		**Hazardous Materials: (asbestos, lead, etc.)**	
UST's	**NO**			Surface Staining	**NO**	Buildings	***NO***
Surface tanks	**NO**			Oil Sheen	**NO**	Sprayed-on Fireproofing	**NO**
Sumps	**NO**	Ponds	**NO**	Odors	**NO**	Pipe Wrap	**NO**
Drums	**NO**	Basins	**NO**	Vegetation damage	**NO**	Friable Tile	**NO**
Transformers	**NO**			Other		Acoustical Plaster	**NO**
Landfill	**NO**					Serpentine	**NO**
Other						Paint **NO**	Other

Other comments and/or observations:

The information provided below were based on the findings in the ACM/LBP survey report (Task Order #27) dated March 2019.
The ADL information provided below were based on findings in previous ADL reports for projects EA -4612U0 (PM. 60.9-81.5); EA- 452100 (PM. 62.3-R63.7)

Include the following in the PS&E package: If any of the existing nine bridge railings are removed or replaced*:
SSP 14-11.16, Asbestos-Containing Construction Materials (ACCM) in Bridges, requires asbestos-compliance plan and bid item 140003.
SSP 14-9.02, asbestos NESHAP Notification.

SSP 7-1.02K(6)(j)(iii) for disturbance of earth material containing Aerially Deposited Lead (ADL), requires a lead-compliance plan and bid item 070030.

SSP 14-11.14 for the removal and disposal of Treated Wood Waste (TWW) from sign and/or MBGR posts.
SSP 84.9.03B: Residue from paint or thermoplastic contains lead, requires a lead-compliance plan and bid item 070030.

Note: The above requirements assume no modification to existing electrical systems within the project limits which include disposal of electrical equipment containing hazardous material.

**Does not include the disturbance of bridge concrete or bridge painted traffic stripes which are non-hazardous.*

ISA DETERMINATION:

Does the project have potential hazardous waste involvement? **LOW RISK**

If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Preliminary Site Investigation? **NO** If yes, explain, and give estimate of additional time required:

ISA CONDUCTED BY: Neil Azzu **DATE:** **12/19/2019**

Neil Azzu - ENV. ENG, MS-824
DISTRICT 08 HAZARDOUS WASTE (909) 388-7207

ATTACHMENT K

RIGHT OF WAY DATA SHEET

Revised: September 2, 2020
08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN # 0816000086

To: DIBORO KANABOLO
Design O

From: MARIA LAMERE,
R/W Project Coordination

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 **August 12, 2019**, 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 for the estimator to 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. We have determined there is no right of way functional involvement in the proposed project as designed, at this time.

Right of Way Engineering will require a minimum of 0 months after receiving final Right of Way Requirements to deliver Right of Way Appraisal mapping.

Right of Way will require a minimum of 6 months prior to certification of the subject project after receiving final Right of Way Appraisal maps, necessary environmental clearances, and approved freeway agreements.

Shorter lead times will require either more Right of Way resources, an increased number of Eminent domain actions and possibly result in missing the certification date. Any of these actions may reflect adversely on the District's other programs or the Department's and/or District's public image.

*TOTAL PROJECT HOURS FOR R/W: 174

*TOTAL PROJECT HOURS FOR R/W ENG: 10

*NOTE: THESE HOURS ARE PRELIMINARY BASED ON THE INFORMATION PROVIDED WITH THE DATA SHEET REQUEST. HOURS ARE SUBJECT TO CHANGE AS NEW OR ADDITIONAL INFORMATION IS PROVIDED.

Attachments:
[XX] Right of Way Data Sheet
[XX] Utility Information Sheet
[XX] Railroad Information Sheet
[XX] Right of Way Engineering Estimate Sheet
[XX] MCCE

EVNT RW
COST RW1 – 6
TEXT TI 9/10/20
SCAN
CLASS
AGRE
TPRC

Revised: September 2, 2020
08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement, Shoulders and Ramps
EA 1C081 PN # 0816000086

1. Right of Way Cost Estimate:

			Value
A.	Acquisition, including Excess Lands, Damages, Goodwill, Major Rehabilitation, and Environmental Permits to Enter	$	0.00
B.	Acquisition of Offsite Mitigation.	$	15,289,601.27
C.	Utility - Relocation (State share) - Potholing $0.00	$	0.00
D.	RAP	$	0.00
E.	Clearance/Demolition	$	0.00
F.	Title and Escrow Fees	$	0.00
G.	Project Permit Fees	$	346,583.50
H.	Condemnation Costs	$	0.00
I.	**Total R/W Estimate:**		**$ 15,636,184.77**
J.	Construction Contract Work	$	0.00

1a. Real Property Services:

A.	Routine Maintenance (Object Code 058)	$	0.00
B.	Advertising Costs (Object Code 039)	$	0.00
C.	Utility Costs (Object Code 002)	$	0.00
D.	Total Real Property Services Estimate:	$	0.00

2. Anticipated Date of Right of Way Certification **October 07, 2021**

3. Parcel Data:

Type	Dual/Appr	Utility Involvement
X		U4-1
A		-2
B		-3
C		-4
D		U5-7 2
E xxxx		-8
F xxxx		-9

Total

RR Involvement	No
C&M Agreement	0
Svc Contract	0
OE Clearances/ Clauses	0
LIC/ROE	0

Government Lands	Yes
Number of Parcels	0

Misc. R/W Work	No
RAP Displacement	0
Clear/Demo	0
Const Permits	0
Condemnation	0
Permits to Enter-ENV	0

Areas: Right of Way: S.F. 0
Excess: S.F. 0
No. Excess Land Parcels: 0

4. Are there major items of Construction Contract Work?
Yes ____ No _X_ (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.).

Type and Number of Parcels:		
	Fee	0
	Partial	0
	Full	0
	Easements	0
	Temporary	0
	Permanent	0

6. Is there an effect on assessed valuation?
Yes ____ Not Significant ____ No _X_ (If yes, explain.)

7. Are utility facilities or rights of way affected?
Yes ____ No _X_ (If yes, attach Utility Information Sheet, Exhibit 4-EX-5.)
The following checked items may seriously impact lead time for utility relocation:
☐ Longitudinal policy conflict(s).
☐ Environmental concerns impacting acquisition of potential easements.
☐ Power lines operating in excess of 50 KV and substations.
(See attached Exhibit 4-EX-5 for explanation.)

8. Are railroad facilities or rights of way affected? Yes ____ No _X_
(If yes, attach Railroad Information Sheet, Exhibit 4-EX-6.)

9. Were any previously unidentified sites with hazardous waste and/or material found?
Yes ____ None Evident _X_
(If yes, attach memorandum per R/W Manual, Chapter 4, Section 4.01.10.00.)

10. Are RAP displacements required? Yes ____ No _X_ (If yes, provide the following information.)
No. of single family ____ No. of business/nonprofit ____
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 there material borrow and/or disposal sites required?
Yes ____ No _X_ (If yes, explain.)

12. Are there potential relinquishments and/or abandonments?
Yes ____ No _X_ (If yes, explain.)

13. Are there existing and/or potential Airspace sites?
Yes ____ No _X_ (If yes, explain.)

14. 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.)
From Design Requirement Maps to R/W to Project Certification _6_ months.

15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
Yes _X_ No ____ (If no, discuss.)

08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN # 0816000086

Evaluations prepared by:

Right of Way: Name STEPHEN HENSLEY Date 8/20/19

Railroad: Name JOHN RUBALCABA Date 8/22/19

Utilities: Name KRISTINE FLINT Date 8-21-19

Government Lands: Name AIDEE ARPON Date 8/23/19

Property Management: Name DAVID BUZON Date 8/27/2019

Excess Land: Name LAWRENCE KELLY Date 8-27-19

Right of Way Engineering: Name TRENT LENFESTEY/ DANA ROBIE Date 8/26/19

Reviewed By:

WC 9/2/20 WC 8/5/20
Project Coordinator
District 8, Right of Way

Date 9/4/19

Reviewed By:

for CS 08/05/2020
MARIA LAMERE
Senior-Project Coordination
District 8, Right of Way

CS 9/2/20 Date 9/4/2019

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

for NANCY ESCALLIER
Project Delivery Manager
District 8, Right of Way

Date 9/4/19

REBECCA GUIRADO,
Deputy District Director
District 8, Right of Way and Land Survey

Date 9/5/19

08-RIV-10 PM R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN 0816000086

UTILITY INFORMATION SHEET

1. Name of utility companies involved in project:

   AT&T Transmission, AT&T Distribution; City of Coachella; Imperial Irrigation; Metropolitan Water District; SC Gas Transmission Beaumont; SC Gas Transmission; Sprint

2. Types of facilities and agreements required:

   This project is an exempt project with no known utility involvement.

3. Is any facility a longitudinal encroachment in existing or proposed access controlled right of way? Explain.

   No.

   Disposition of longitudinal encroachment(s):

   ☐ Relocation required
   ☐ Exception to policy needed
   ☐ Other. Explain

4. Additional information concerning utility involvement on this project, i.e., long lead time materials, growing or species seasons, customer service seasons (no transmission tower relocation in summer).

   The scope of this project is to rehabilitate the pavement on portions of Interstate 10 (I-10), in Riverside County from PM R60.7 to PM R74.3. Per Project Engineer, there are no utility involvements or relocations.

   Since excavation does not exceed 6-inches in dirt or 12-inches in pavement, this project is an "Exempt Project" per Section 4-4 of the State's High/Low Risk Policy. Plans for such exempt projects must include a note on all plan sheets that state that "EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS."

   If the scope of the project should change to include excavation, then a utility search would be required, and Design must provide the Right of Way Utility Coordinator (UC) with geometric base maps and a written request for utility verification [see Design Task D282 (220.D)]. The UC will then contact all appropriate Utility Owners (UO's) for verifications and corrections. The UC will then provide Design with the updated information and/or UO As-Builts and Design will then prepare accurate utility location maps or U-Sheets. Design will then determine all utility conflicts that require positive location and/or relocation [see Design Task D283 (220.D)].

5 PMCS Input Information

Total estimated cost of State's obligation for utility relocation on this project:
(Phase 9 funding) $ **$0.00**

Note: Total estimated cost to include any Department Obligation to relocate longitudinal encroachments in access controlled right of way and acquire any necessary utility easements.

Utility Involvements:

U4-1	_____	(Total number of expected owner expense involvements)
-2	_____	(Total number of expected State expense involvements – conventional highway, no Federal aid)
-3	_____	(Total number of expected State expense involvements – freeway, no Federal aid)
-4	_____	(Total number of expected State expense involvements – conventional or freeway, with Federal aid)
U5 -7	2	(Total number of expected utility verifications, which will not result in involvements)
-8	_____	(Total number of expected utility verifications – 50% will result in involvements and 50% will not)
-9	_____	(Total number of expected utility verifications, which will result in involvements)

Prepared By _____ August 21, 2019

Kristine Flint **Date**

Right of Way Utility Estimator

08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN # 0816000086

RAILROAD AND GOVERNMENT LANDS INFORMATION SHEET

1. Describe railroad facilities or rights of way affected.

   None

2. When branch lines or spurs are affected, would acquisition and/or payment of damages to businesses and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the rail service? Yes ____ No__X__(If yes, explain.)

3. Discuss types of agreements and rights required from the railroads. Are grade crossings requiring service contracts, or grade separations requiring construction and maintenance agreements involved?

   None

4. Remarks (non-operating railroad right of way involved?):

   None

5. Are Government Lands involved? Yes __X__ No ____
   If yes, number of parcels _____
   Agency Name and Explanation: **BLM concurrence is needed prior to certification.**

6. PMCS Input Information

RR Involvement	**No**
C&M Agreement	0
SVC Contract	0
OE Clearances/ Clauses	0
LIC/ROE	0
Government Lands	**Yes**
Number parcels	0

Prepared By: _____ Date: 8/22/19
JOHN RUBALCABA
Right of Way Railroad Coordinator

Prepared By: _____ Date: 8/23/19
AIDEE ARPON
Right of Way Government Lands Coordinator

08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN # 0816000086

PROPERTY MANAGEMENT/EXCESS LAND INFORMATIONAL SHEET

WBS CODE	WBS ACTIVITY	NUMBER OF PARCELS	HOURS	COST
	PROPERTY MANAGEMENT	**NOT APPLICABLE**	**X**	
195.40.05	Fair Market Rent Determinations (Residential)			
195.40.10	Fair Market Rent Determinations (Non-Residential)			
195.40.15	Regular Rental Property Management			
195.40.20	Property Maintenance and Rehabilitation (Rental Property)			
195.40.25	Property Maintenance and Rehabilitation (Non-Rental Property)			
195.40.30	Hazardous Waste and Hazardous Materials			
195.40.35	Transfer of Property to Clearance Status			
270.25.03	Secure Lease for Resident Engineer's Office Space or Trailer			
		Subtotal		

Date: _____

DAVID BUZON
Property Management

	EXCESS LAND	**NOT APPLICABLE**	**X**	
195.45.05	Excess Land Inventory			
195.45.10	Excess Land Appraisal and Public Sale Estimate			
195.45.15	Excess Land Inventory ("Roberti Bill")			
195.45.20	Excess Land Sales to $15,000			
195.45.25	Excess Land Sales from $15,001 to $500,000			
195.45.30	Excess Land Sales over $500,000			
195.45.35	CTC and AAC Coordination			
		Subtotal		
		TOTAL HOURS (ONLY)		

LAWRENCE KELLY

Date: 8-27-19

08-Riv-10 PM – R60.7/R74.3
Rehabilitate Mainline Pavement,
Shoulders and Ramps
EA 1C081 PN # 0816000086

RIGHT OF WAY ENGINEERING ESTIMATE SHEET

PHASE/WBS CODE	WBS ACTIVITY	HOURS
0.160	Existing Records Research, Existing R/W Mapping, Land Net Mapping, Early Appraisal Mapping.	0
1.185	Right of Way Engineering products - Existing R/W, Early Appraisal Mapping	0
2.220	Record Data, Monumentation Record of Survey, Appraisal Mapping, Deeds/Legal descriptions, Resolution of Necessity Package, Federal Application Mapping, Director's Deed Package, Mitigation Mapping, Right of Way Certification.	10
2.300	Final Monumentation Record of Survey, Trial Exhibits and Testimony, Relinquishment and Vacation Mapping, Excess Lands Transactions Package, Right of Way Record Maps Filing.	0
	TOTAL RIGHT OF WAY ENGINEERING ESTIMATE	**10** **Unit 2261**

Check only on box below:

☐ Right of Way Engineering will require a minimum of ____ months after receiving final Right of Way Requirements to deliver Right of Way Appraisal mapping.

☒ Right of Way Appraisal mapping is not anticipated for this project.

Travis Kottwitz

TRAVIS KOTTWITZ
Right of Way Engineering

Date: 08-25-2019

Right of Way Workplan Breakdown:

Date Prepared 29-Aug-19

EA: 1C081

Date of Data Sheet: 08/12/19

Utility Portion of DS Total $0

Project Coordinator: MARIA LAMERE

R/W Data Sheet Total $20,000

Project Manager: Wil Ochoa

08.400- WBS Description	COST CENTERS	WBS 11.2 RW Codes	Hours Needed		Hours if	OVERSIGHT HOURS		%of original total
PROJECT MANAGEMENT - PA & ED	08.2304	0.100.10	0	2%		100.10	0	100%
PROJECT MANAGEMENT - PS&E	08.2304	0.100.15	0	2%		100.15	0	100%
RESEARCH/LAND NET MAPPING	08.2261	0.160.00	23	40%		160.10	6	25%
DRAFT PROJECT REPORT	08.2304	0.160.15	3	40%		160.15	0	5%
ENVIRONMENTAL STUDY REQUEST [ESR]	08.2304	0.160.30	1	20%	27	160.30	0	5%
GENERAL ENVIRONMENTAL STUDIES	08.2304	0.165.10	5	50%	I50	165.10	0	5%
DRAFT ENVIRONMENTAL DOCUMENT	08.2304	0.165.25	5	50%	10	165.25	0	5%
RAILROAD AGREEMENTS	08.2303	0.170.15	0	100%	Q50	170.15	0	5%
PUBLIC HEARING		0.175.10	0	100%		175.10	0	5%
FINAL PROJECT REPORT		0.180.05	0	50%		180.05	0	5%
FINAL ENVIRONMENTAL DOCUMENT		0.180.10	0	50%	0	180.10	0	5%
RIGHT OF WAY REQUIREMENTS MAPS	08.2261	1.185.00	3	45%	4	185.25	1	25%
UPDATED PROJECT INFORMATION	08.2304	1.185.05	3	45%		185.05	0	5%
ENGINEERING REPORTS	08.2304	1.185.20	1	10%		185.20	0	5%
RAILROAD AGREEMENTS	08.2303	1.225.15	5	100%		205.15	0	5%
DRAFT SPECIFICATIONS		1.230.35	0	50%		230.35	0	5%
UPDATED PROJECT INFORMATION FOR PS&E PACKAGE		1.230.60	0	50%	0	230.60	0	5%
ENVIRONMENTAL MITIGATION		1.235.05	0	50%		235.05	0	5%
DETAILED SITE INVESTIGATION FOR HAZARDOUS WASTE		1.235.10	0	50%	0	235.10	0	5%
CIRCULATED & REVIEWED DRAFT DISTRICT PS&E PACKAGE	08.2261	1.255.05	0	10%		255.05	0	5%
UPDATED PS&E PACKAGE		1.255.10	0	15%		255.10	0	5%
RIGHT OF WAY CERTIFICATION DOCUMENT	08.2304	1.255.65	0	50%		255.65	0	5%
UPGRADED/UPDATED RIGHT OF WAY CERTIFICATION DOCUMENT	08.2304	1.255.75	0	25%	0	255.75	0	5%
PLANNING AND MANAGEMENT RIGHT OF WAY	08.2296	2.100.25	40					
PROJECT MANAGEMENT - RIGHT OF WAY	08.2304	2.100.25	59	92%	99	100.25	59	100%
PROPERTY MANAGEMENT	08.2298	2.195.40	0	100%		195.40	0	0%
EXCESS LAND	08.2260	2.195.45	0	100%		195.45	0	0%
APPROVED UTILITY RELOCATION PLAN	08.2297	2.200.15	2	15%		200.15	0	5%
UTILITY RELOCATION PACKAGE	08.2297	2.200.20	7	50%		200.20	0	5%
UTILITY RELOCATION MANAGEMENT	08.2297	2.200.25	4	25%		200.25	0	5%
UTILITY CLOSE OUT	08.2297	2.200.30	1	10%	14	200.30	0	5%
APPRAISAL MAPPING/DEEDS/RONS	08.2261	2.220.00	10	100%		220	3	25%
RIGHT OF WAY APPRAISALS	08.2300	2.225.60	0	p8	95%	225.60	0	0%
RIGHT OF WAY ACQUISITION	08.2257	2.225.65	5	p15,p30		225.65	0	0%
RIGHT OF WAY RELOCATION ASSISTANCE	08.2260	2.225.70	0	p21,p37		225.70	0	0%
RIGHT OF WAY CLEARANCE	08.2304	2.225.75	0	p24		225.75	0	0%
RIGHT OF WAY CONDEMNATION	08.2299	2.225.80	0	p27	15	225.80	0	0%
PARCEL AND PROJECT DOCUMENTATION	08.2304	2.245.50	0	5%		245.50	0	100%
RIGHT OF WAY APPRAISALS	08.2300	2.245.60	0	s8	95%	245.60	0	0%
RIGHT OF WAY ACQUISITION	08.2257	2.245.65	0	s15		245.65	0	0%
RIGHT OF WAY RELOCATION ASSISTANCE	08.2260	2.245.70	0	s21		245.70	0	0%
RIGHT OF WAY CLEARANCE	08.2304	2.245.75	0	s24		245.75	0	0%
RIGHT OF WAY CONDEMNATION	08.2299	2.245.80	0	s27, s30	0	245.80	0	0%
FINAL RIGHT OF WAY ENGINEERING	08.2261	2.300.00	0	100%		300.05	0	25%
PROJECT MANAGEMENT - CONSTRUCTION		3.100.20	0	2%		100.20	0	100%
RE OFFICE SPACE OR TRAILER	8.2298	3.270.25						
TECHNICAL SUPPORT		3.270.66	0	100%		290.35	0	5%
FUNTIONAL SUPPORT		3.285.10	0	100%		285.10	0	5%
PROJECT MANAGEMENT - PID COMPONENT		K.100.05	0	2%		100.05	0	100%
INITIAL ALTERNATIVES DEVELOPMENT	08.2304	K.150.10	3	60%		150.10	0	0%
ALTERNATIVES ANALYSIS	08.2304	K.150.15	2	30%		150.15	0	0%
APPROVED PID [PSR PSSR ETC]	08.2304	K.150.25	1	10%	5	150.25	0	0%
			0	5%		225.50	0	100%
RW Support Costs		Total Hours	184		PY 0.10		70	0.04

Updated August 2016

Revised: 8/26/2020

Environmental Division
Mitigation and Compliance Cost Estimate (M.C.C.E.)

This MCCE is for: **PS&E** Oversight Project:

Dist - Co - Rte - PM: 08-RIV-010-R60.900/R74.000 EA (Proj ID): 08-1C081_ (0816000086)

Project Name: Riv 10 NEAR COACHELLA PAVEMENT REHAB Alternative #: 1

Project Manager: OCHOA, WILFREDO Phone Number:

MCCE Prepared By: Luz Quinnell/ CSWang Date: 9/9/2020 Phone Number: 9093836944/9493542

Resource Item	232/332 Dollars	FY	Acres/ Credits	ROW $ Planned	FY	ROW $ Actual	Paid	Construction 042$ (BEEs)	FY
Air Quality									
							☐		
Biological									
Task Order for desert tortoise and	$65,000	18/19					☒		
Contract Supplied Biologist							☐	$2,411,325	20/21
1602,401,404 mitigation			C	$5,289,601.28	19/20		☐		
Perm Desert Tortoise Fence							☐	$1,936,704	20/21
Mitigation for CVMSHCP			C	$9,999,999.99	19/20		☐		
tortoise fence temporary							☐	$7,000	20/21
Permit Fees									
CDFW Document Filing Fee							☐		
1600				$157,484.5	19/20		☐		
401				$169,099	19/20		☐		
TOTAL	**$65,000**			**$15,616,184.77**				**$4,355,029.00**	

Comments (explanation and risk management plan attached)

Mitigation CVMSHCP: 21 ac of desert tortoise critical habitat and 150 ac of occupied habitat. Will require 5% of the total project cost for mitigation compliance due to potential adverse impacts to desert tortoise species and critical habitat. Subtotal Construct cost estimated at $217,000,000 August 2020 Draft Project Report. Mitigation for CVMSHCP estimated at $10,000,000.

401 fee: Temp impacts 11.79 ac. Perm impacts 1.12 ac. Total impacts 12.91 ac. Fee cost $169,099.
401 Mitigation. Perm impacts 1.12 ac. Ratio of 2. 2.23 ac of mitigation required after ratio. Quote of $224250/ac. Mitigation cost $500,622.99 credits.

404 mitigation will be less than 1600 or 401 mitigation and can be stacked. Worst case is that it will be the same as 401 mitigation.

1600 fee: 29 washes = 29 projects. $5430.5/project. $157484.50
1600 mitigation: Temp impacts 11.79 ac Perm impacts 1.12 ac. Ratio could be 2 for permanent+temporary impacts. In negotiation with CDFW. Worst case scenario is that 23.59 ac needed after ratio. quote of $224250/ac. $5,289,601.28. Negotiation will continue once permits are applied for in December 2020.

1602,401,404 mitigation. Choose the largest of mitigation to estimate stacked cost.

Permanent Desert tortoise Fence: length of project 13.1 mi. Both sides 26.2 mi. 5280ft/mi. $14/ft for DT fence. Cost = $1936704. Will also include fence in median. cost item 803210

Approved By: Antonia Toledo Date: 8/28/2020
Environmental Branch Chief

Right of Way Capital: Christine Sentono Date: 09/03/2020
Right-of-Way Office Chief, Mitigation

If cultural and biology mitigation totals more than $500,000: Craig Wentworth Date: 9/9/2020
Environmental Office Chief

Submitted to PM on:_____ **Initial**___

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Making Conservation a California Way of Life.

To: MARIA LAMERE
OFFICE CHIEF
R/W PROJECT COORDINATION, MS 971

Date: August 12, 2019

File: 08-Riv-10 PM R60.7/R74.3
In/Nr Coachella from 0.5 Mi E/O Coachella Canal to Hazy Gulch Br
Rehabilitate mainline pavement, shoulders & ramps
08 2239 / EA 1C081
Project No. 0816000086
20.xx.201.122 HA22

From: DIBORO KANABOLO
Office Chief
Design O, MS 1164

Subject: **REQUEST FOR RIGHT OF WAY DATA SHEET UPDATE**

A Project Report A Project Report is being prepared to rehabilitate the pavement of portions of Interstate 10 (I-10), in Riverside County, from 2.0 miles E/O Dillon Road IC to 2.0 miles E/O Cactus City Rest Area.

A Right of Way Data Sheet for the subject project was prepared on April 30, 2018 as attached.

To meet the current project schedule, please provide us with this information by September 4, 2019 or sooner.

If you have any questions regarding this request, please contact Fred Asef, the Project Engineer, at (909) 383-7508.

Attachments:
1. RW Data Sheet dated March 30, 2018
2. RW Data Sheet request Form

Fred Asef / jl

RECEIVED
AUG 12 2019

ATTACHMENT L

ENVIRONMENTAL ASSESSMENT with FINDING OF NO SIGNIFICANT IMPACT

I-10 Pavement Rehabilitation Project

RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 10 (PM R60.7/R74.3)
1C081/0816000086

Initial Study with Mitigated Negative Declaration/ Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California, Department of Transportation

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.

September 2020

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT

FOR

I-10 Pavement Rehabilitation Project (1C081)
RIV – 10 PM R60.7 to R74.3

The California Department of Transportation (Caltrans) has determined that the Build Alternative (the Preferred Alternative) will have no significant impact on the human environment. The Build Alternative includes the I-10 rehabilitation, which extends approximately 14 miles from Post Mile R60.7 to Post Mile R74.3. The Build Alternative includes rehabilitation of existing pavement on both the eastbound (EB) and westbound (WB) sides, installation of a truck-climbing lane in the EB direction, installation of electric vehicle charging stations at the Cactus City Rest Area, and installation of permanent desert tortoise fence. The rehabilitation activities would occur within the existing right of way limits and would meet current transportation design standards, while avoiding and/or minimizing impacts to the environment.

This Finding of No Significant Impact (FONSI) is based on the attached Environmental Assessment (EA), and associated technical studies and design documents. These have been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. The EA provides sufficient evidence and analysis to determine that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA (and supporting technical and design documents, as appropriate).

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.

9/10/2020
Date

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
NEPA Lead Agency

SCH: 2020029024
08-RIV-10-PM R60.7/R74.3
1C081
0816000086

Rehabilitate existing pavement, ramps, and guardrail, install an eastbound truck climbing lane, install electric vehicle charging stations, and update ADA facilities on I-10, from 2.0 miles east of Dillon Road Interchange (PM R60.7) to 2 miles east of Cactus City Rest Area (PM R74.3), in the County of Riverside.

INITIAL STUDY with Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies: California Transportation Commission

Cooperating Agencies: U.S. Army Corp of Engineers (USACE)

9/10/2020
Date of Approval

DAVID BRICKER
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA Lead Agency
NEPA Lead Agency

The following persons may be contacted for more information about this document:

Antonia Toledo, MS
Senior Environmental Planner
California Department of Transportation
464 W. 4th Street, MS-820
San Bernardino, CA 92401
(909) 806-2541

SCH: 2020029024

Mitigated Negative Declaration
Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to rehabilitate the existing asphalt concrete (AC) pavement on Interstate 10 (I-10) from 2.0 miles east of Dillon Road Interchange to 2.0 miles east of Cactus City Rest Area. The project is located in the Coachella Valley, within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The project limits are from Post Mile (PM) R60.7 to PM R74.3. Rehabilitation activities include removal and replacement of existing inside and outside shoulders, guardrails, rumble strips, drainage inlets, dikes, and oversized drains. The project also includes widening of bridges and placement, repair, and installation of permanent desert tortoise fence. Grading will be limited to five feet outside the edge of shoulder, except at bridge locations. The project would also include the installation of electric vehicle charging stations at Cactus City Rest Area. The proposed project will also include the installation of a two-lane temporary detour in the existing median. Following construction, the eastbound detour lane would be converted to a general-purpose lane, and the eastbound outside lane would be designated as a truck climbing lane.

Determination

The Department has prepared an Initial Study for this project, and following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The project would have no impact on agriculture and forest resources, energy, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, recreation, utilities, and wildfire.

In addition, the project would have less than significant impact on aesthetics, air quality, cultural resources, geology and soils, hydrology and water quality, public services, transportation, tribal cultural resources.

The project would have less than significant impacts with mitigation on biological resources and greenhouse gas emissions.

To avoid and/or minimize potential impacts to biological resources, the following measures will be implemented:

BIO-1: **Materials and Spoils Control** (2018 Caltrans Standard Specification 14-10.01) Materials and Spoils Control-2018 Caltrans Standard Specification 14-10.01: Construction activities shall be limited to the smallest project footprint possible, including drainage features. Project-related debris, spoils, and trash will be contained and removed to a proper disposal facility. Materials and spoils will not be stored within any active drainage and a fence will be installed along the edges of the drainage to ensure that construction activities do not extend beyond the construction limits. Upon completion of construction, all refuse, including, but not limited to equipment parts, wrapping material, cable, wire, strapping, twine, buckets, metal or plastic containers, and boxes will be removed from the site and disposed of properly.

BIO-2: **Equipment Staging** (2018 Caltrans Standard Specification 8-1.02C[1]) Equipment storage, fueling, and staging areas shall be located on previously disturbed areas with minimal risks of direct impacts to riparian areas or other sensitive habitats. These designated areas shall be selected in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters, including secondary containment. Refueling shall not occur within 50-feet of a drainage. Project-related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional cities, USFWS, CDFW, and RWQCB, and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

BIO-4: **Contractor Supplied Biological** (2018 Caltrans Standard Specification 14-6.03D) The Contractor will hire with the approval and authorization by the Caltrans Biologist a well-qualified Contractor Supplied Biologist (CSB) to ensure construction activities comply with the permits, licenses, agreements, and certifications and compliance of all protective measure. The CSB will notify the resident engineer of project activities that are not in compliance. The resident engineer will stop work until the protective measures are implemented fully. The CSB will be designated to oversee compliance of all protective measures and will monitor all construction-related activities. The CSB when handling desert tortoises, must be an authorized biologist and must follow the guidelines outlined in the Desert Tortoise Field Manual (USFWS 2018, Chapters 6 and 7). Immediately prior to the start of any ground-disturbing activities and prior to the installation of any desert tortoise exclusion fencing, pre-construction clearance surveys for the desert tortoise will be conducted by the CSB and/or trained individuals, as appropriate.

BIO-5: **Predation Prevention** (2018 Caltrans Standard Specification 14-10.01) To preclude attracting predators, such as the common raven and coyote, food-related trash items will be removed daily from the work site and disposed of at an approved refuse disposal site. Workers are prohibited from feeding all wildlife.

BIO-8: **Worker Environmental Awareness Training** (2018 Caltrans Standard Specification 14- 6.03D(3) The CSB will present to each employee (including temporary, contractors, and subcontractors) a worker environmental awareness training prior to the initiation of work. They will be advised of the special status species in the BSA, the steps to avoid impacts to the species, and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they will remain through the duration of the project. The contractor, resident engineer, and the CSB will be responsible for ensuring that employees are aware of the listed species. If additional employees are added to the project after initiation, they will receive instruction prior to working on the project.

BIO-9: **Desert Tortoise Under Equipment** (2018 Caltrans Standard Specification 14-6.03D[3]) Whenever project vehicles are parked outside of a desert tortoise fence

that is intended to preclude entry by desert tortoises, workers will check under the vehicle before moving the vehicle. If a desert tortoise is beneath the vehicle, the worker will notify the CSB to relocate the tortoise. If an authorized biologist is not present on-site, the Resident Engineer or supervisor must notify the Caltrans Biologist. Workers will not be allowed to capture, handle, or relocate tortoises.

BIO-10: **Exclusionary Desert Tortoise Fencing** (2018 Caltrans Standard Specification 80-4.02B[2]) Permanent exclusionary desert tortoise fencing will be installed to prevent entry by desert tortoises into a work site. The CSB will ensure that desert tortoises cannot pass under, over, or around the fence. The CSB must periodically check the fenced area to search for breaks in the fence and to ensure no desert tortoises have breached the fence. Preconstruction clearance surveys for desert tortoise and desert tortoise sign will be performed within all proposed construction areas prior to the fence being installed. In addition, prior to ground disturbing activities beginning in a previously undisturbed or unfenced area, preconstruction clearance surveys will be performed.

BIO-11: **Deceased or Injured Tortoise Within the Project Site** Upon locating a dead or injured tortoise within a project site, the resident engineer will immediately notify the CSB and the Caltrans Biologist whom will notify the USFWS within 24 hours of the observation via email/telephone. Written notification must be made to the appropriate USFWS field office within 5-days of the finding. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death or injury, if known, and other pertinent information (i.e., size, sex, recommendations to avoid future injury or mortality).

BIO-12: **Transportation of Injured Tortoise** Injured desert tortoises will be transported to a veterinarian for treatment at the expense of the contractor or Caltrans. Only the CSB or an approved desert tortoise biological monitor will be allowed to handle an injured tortoise. If an injured animal recovers, the appropriate USFWS field office will be contacted for final relocation of the animal.

BIO-20: Rock Slope Protection must be grouted or covered with minimum 1-foot of soil material to prevent desert tortoise entrapment.

BIO-21: CVMSHCP has identified the following desert tortoise linkages and conservation measures. Caltrans must adhere to the following conservation measures for compliance with the CVMSHCP: CVMSHCP, Section 4.3.17 Desert Tortoise and Linkage Conservation Area, CVMSHCP, Section 4.4.6 Biological Corridors under the I-10 Freeway in the Desert Tortoise and Linkage Conservation Area.

BIO-24: The project is entirely located within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) with the eastern portion of the project, from PM 67.4 to PM 74.30, located within the Desert Tortoise Linkage Conservation Area and the western portion of the project, from PM 60.9 to PM 67.4 located outside of any CVMSHCP Conservation Areas. Caltrans will coordinate with the Coachella Valley Conservation Comission (CVCC) for the acquisition of conservation lands, and management and monitoring of these lands. Additionally, Caltrans will comply with the applicable avoidance and minimization measures described in the CVMSHCP Section 4.4 for Covered Activities.

BIO-25: The project will impact jurisdictional Waters of the State (WSC) and Waters of the US (WOTUS). The impact analysis and mitigation ratios will be determined during the permitting process, in coordination with the US Army Corp of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). Mitigation for permanent and temporary impacts will be calculated in coordination with the regulatory agencies.

To reduce future greenhouse gas emissions:

GHG-1: Installation of zero-emission vehicle (ZEV) infrastructure: Caltrans will install an electric vehicle charging station at the Cactus City Rest Area, on the eastbound and westbound sides.

9/10/2020

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA Lead Agency

Date

ATTACHMENT M

STORM WATER DATA REPORT

Signature Page

Dist-County-Route: 08-Riv-10

Post Mile Limits: R60.9 To R74.0

Type of Work: Rehabilitate Mainline Pavement, shoulders and ramps.

Project ID (EA): 0816000086 (1C0810)

Program Identification: 201.122

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Colorado River Basin RWQCB R7

Total Disturbed Soil Area: 526 Acres PCTA: 248 Acres

Alternative Compliance (acres): 248 ATA 2 (50% Rule)? Yes ☐ No ☒

Estimated Const. Start Date: 01/03/23 Estimated Const. Completion Date: 01/06/26

Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other: _____

Is MWELO applicable? Yes ☐ No ☒

Is the Project within a TMDL watershed? Yes ☒ No ☐

TMDL Compliance Units (acres): 248 Acres

Notification of ADL reuse (if yes, provide date): Yes ☒ Date: 01/03/2002 No ☐

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

Behzad Sedighi 01/09/2020

Behzad Sedighi, Registered Project Engineer — Date

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

W.I O.I 1/9/20

Will Ocha, Project Manager — *Date*

1-9-20

Joseph Solis, Designated Maintenance Representative — *Date*

1-9-2020

Almabeth Anderson, Designated Landscape Architect Representative — *Date*

[Stamp Required at PS&E only]

1-9-2020

Jon Bumps, District SW Coordinator — *Date*

1/9/2020

ATTACHMENT N

TRANSPORTATION MANAGEMENT PLAN
COST ESTIMATE

For DTM use		Caltrans District 8 (Riverside & San Bernardino)	
Developer	ct	TMP Data Sheet (Ver. Sept. 2017)	

Transportation Management Plan (TMP) Data Sheet is for PID, PSR, PR and PS&E considering DTM's requirements. The validity of this TMP expires at the same time the associated LRCs expires.

The TMP Data Sheet includes background & signature, TMP elements & TMP estimate

Requester: *Complete section (A) & (B) of this page only*

Requester: Submit separate request for each roadway (Type the information in the cells below with yellow background ONLY)

TMP receiver: Please note that

Project shall not be certified without the approval of the Lane Requirement Charts (LRCs) & the TMP by the DTM

(A) Requester's info.

1 - Date of request	10/24/2019	2 - Department	Construction Work
3 - Full name	Fred Asef		909 383 7508
5 - email address	fred.asef@dot.ca.gov		
6 - Project Manager's name	Wil Ochoa		
7 - Project Manager's email	wil.ochoa@dot.ca.gov		

(B) Project information

		1-EA#/ID#	1C081(0816000086)
2-County/Route	RIV/I-10	3-phase/sub object	0/160
4-Post mile (From-To)	R60.7/R74.3		
5-Short description of job	**Rehabilitation of mainline pavement, shoulders and Ramps**		
Construction period per WPS			
6-Estimated start date	03/03/22	8-# of working days	600
7-Estimated end date	07/05/22	9-Estimated Proj. cost	$ 263,000,000

10- Requester: Use section (H), in the bottom of the page, to add any other information that helps developing the TMP

11- Documents to send → *Requester: Please attach the location map in jpeg/pdf format to your E-mail*

12- If hard copies are requested, Send or bring them to the DTM office located on the south side of 11th. Floor, Attn: Al Afaneh. Questions: call 383-6262

13- E-mail the request to: al_afaneh@dot.ca.gov

Following is for DTM use >>>>>>>>>>> Developer: Fill info in green cells only

C) BACKGROUND INFORMATION

		Date request received	10/24/19	Job assigned to	ct
# of working days	600				
Estimated Project cost ($)	263,000,000	Per E-mail dated	10/24/19		
TMP estimate($)		Equal to **0.09%**	Of the project cost		

D) IMPACT	High	Medium	Low	N/A	Developer: (*Briefly, explain the high impact/mitigation): Work on embankment only, no lane closure is required, shoulder lane closure only.*
State Hwy.	X				
Local road				X	
Ramp/connector	X				

E) Developer: Complete the info

Developed by	Cuong Tieu	Original signed by:	ct	Date	10/31/2019
Title	TE-C				
E-mail	cuong.tieu@dot.ca.gov				
Phone/Fax	909-806-3904				

F) Approved by

		Original signed by:	Al Afaneh	Date	10/31/19
Name:	Al Afaneh				
Title	District Traffic Manager				
E-mail	al.afaneh@dot.ca.gov				
Phone/Fax	909-383-6262				

G) District's info:

Department of Transportation	
District:	8
Address:	464 W. Fourth St., San Bernardino, Ca., 92401-1400
Operations, DTM, MS >>>>	711

DTM is located on the North side of 7th. Fl. Enter from the open door & turn left. MS: 711

H) Remarks

TMP Elements	EA #/ID#	1C081(0816000086)	Date	10/31/2019

Note: A checkmark in the box means you need to include this in the project unless staging, material, or work hour changes eliminate the need for the item. A ? in front means TMP anticipates this - please check into this. A blank box means the item is not needed at this time based on the information received.

Public Affairs officer's 1st. & last name		Phone number

1 Public Information/Public Awareness Campaign (PAC).

Developer: Remember to obtain the estimate from Public affairs by contacting Terri Kasinga. Procedure is in the file under 3- TMP matters

Estimated Cost: $ 110,000

BEES 066063 (Traffic Management Plan-Public Information). Cost to be reduced by Public Affairs (PA) and Construction Liaison (CL) only. Show under **State Furnished** as the **total** of PA+CL.

- 1.1 ☐ Include Rideshare information in PA/CL project material to encourage vehicles reduction in work area
- 1.2 ☑ Brochures and Mailers
- 1.3 ☐ Media Releases (& minority media sources)
- 1.4 ☐ Paid Advertising
- 1.5 ☐ Public Meetings/PAC Mtgs./Speakers Bureau (show cost also for room rental)
- 1.6 ☐ Hand deliver notices to vicinity
- 1.7 ☐ Broadcast fax service
- 1.8 ☐ Telephone Hotline OR
- 1.9 ☑ 1-800-COMMUTE (The telephone number is shown on CS-Info signs) -
- 1.10 ☐ Visual Information (videos, slide shows, etc.)
- 1.11 ☐ Local cable TV and News
- 1.12 ☐ Traveler Information System (Internet)
- 1.13 ☑ Internet, E-mail, Social Media
- 1.14 ☐ Notification to targeted groups:
  - ☐ Revised Transit Schedules/maps
  - ☐ Rideshare organizations
  - ☑ schools
  - ☐ organizations representing people with disabilities
  - ☐ bicycle organizations
- 1.15 ☐ Include PA/CL/Consultant resources in WPS
- 1.16 ☑ Commercial traffic reporters/feeds - e.g. brief Traffic Information people (TIP) group
- 1.17 ☐ Insert SSP's

  "A representative of the Contractor, at Superintendent level or higher, and authorized to commit the Contractor, shall attend and participate in all Public Awareness Campaign meetings. Time commitment for the meeting(s) varies from two to four hours per month."
- 1.18 ☐ Other

Section 1 Total	$ 110,000

2 Traveler Information Strategies

Project team needs to coordinate with Traffic Design!

- 2.1 ☐ Existing Overhead Changeable Message Signs (Stationary)

  ☐ New Installation (Stationary) - BEES 860532 CHANGEABLE MESSAGE SIGN SYSTEM - list locations

- 2.2 ☐ Portable Changeable Message Signs (PCMS) - BEES 066578

  This strategy is in addition to Traffic Design's PCMS for regular traffic handling within the project limits and is used for advising motorists to divert at remote advance decision points - outside the usual project limits. This also allows for advanced motorist information - e.g. a week ahead. Their placement may need to be cleared **environmentally.** Placement should be of sufficient distance prior to decision points as determined by the Resident Engineer.

  # of PCMS [ ] Unit cost/month $ 1,000.00 Months needed [ ] $ -

- 2.3 ☑ Lane Closure System Website
- 2.4 ☐ Caltrans Highway Information Network (CHIN)
- 2.5 ☐ Radar Speed Message Sign (Specter sign) BEES 066064 (approx. EA @ $30,000)
- 2.6 ☐ Bicycle and pedestrian information, e.g. Detour maps
- 2.7 ☐ Automated Workzone Information System (AWIS) BEES 120105
  - consult with TMP Developer prior to updating SSP 12-3.35A(1) for AWIS
  - refer to Section 12-3.35, page 156 to 158 of the 2015 Standard Spec.
- 2.8 ☐ Other

TMP Elements	EA #/ID#	1C081(0816000086)	Date	10/31/2019
			Section 2 Total	$ -

3 Incident Management

3.1 CHP's Construction or Maintenance Zone Enhanced Enforcement Program – COZEEP or MAZEEP. BEES 066062 - show under "State or Agency furnished" in the Cost Estimate.

Make sure to consider the LC hours and add CHP driving time to/from their office

Day COZEEP: To protect active closures

	hours/day	CHP vehicles	# of officers.	Rate/Hr.	
	8	1	1	$ 100	$ -

Night COZEEP: To protect active closures

# of nights		hours/night	CHP vehicles	# of officers. Nights need 2 per car	Rate/Hr.	
80		8	1	2	$ 100	$ 128,000

3.2 **Freeway Service Patrol (FSP) for Construction (CFSP)** $/hr./truck $55

BEES 066065 - show under "State or Agency furnished" in the Cost Estimate

Short duration or remote area CFSP usually is bid with much higher hourly rates. If enhancement of program FSP feasible, CFSP could tie into the lower long-term FSP rates.

	# of trucks	# of days	Hours per day	
A For service within the regular FSP hours				$0
For service outside the regular FSP hours				
B Extended Peak hour coverage				$0
C Support during night closures				$0
D Weekend support				$0

Local agency (SAFE) support 8% $0

8% of truck cost

CFSP CHP support 5% $0

5% of truck cost only if within regular FSP and area

Equipment/Supplies 10% $0

% of truck cost unless more detail available

Consult with the Inland Empire division of CHP or the border division in the southern Riverside county to select the method which is acceptable for the B,C,D that are outside the regular FSP hours or area.

Method 1

CFSP/CHP support 20% $0

20% of truck cost or

CFSP Dispatcher @

# of days		# of nights	hours	# of FSP	Rate	# of FSP vehicles	
			0		$ 45.00		$ -
			0				

CFSP CHP Officers (See Cozeep rate)

# of days		# of nights	hours	# of officers	Rate	# of CHP vehicles	
0		0	0	1	$ 45.00	0	$ -
0		0	0	2	0	0	$ -

☐ Cooperative Agreement or Task Order with SAFE for $0

☐ Task Order with CHP (State-wide Master Agreement for FSP support). for $0

☐ Contact District FSP Coordinator for task orders.

☐ Service Contract

☐ Local Agency will arrange CFSP with SAFE

☐ Local Agency will arrange CFSP administration with CHP

3.2 Total $0

3.3 ☐ Other

Section 3 Total	$ 128,000

4 Construction Strategies

Contact DTM, at 909-383-6262, to get Delay Calculations, Lane Requirement Charts (LRC), Table Z and Special events list. Inform DTM of any concerns/commitments regarding special LC days, times, seasons, events; environmental restrictions; if work may be affected by snow and low or high temperatures. E.g. excessive heat may delay HMA operations lane openings which may increase traffic impact when vehicles overheat in the queue; etc. If traffic volumes vary significantly between seasons, consider 2 sets of LRCs to avoid CCOs.

4.1 This TMP presumes that work is planned as below. If different, TMP needs to be revised. The Project Engineer shall ensure all appropriate lane requirement charts are included.

- ☑ Off peak
- ☑ Night
- ☑ Weekend

4.2 Expected facility closures and requirements

- ☐ Flagging
- ☑ Shoulder
- ☑ Lane
- ☐ Street
- ☑ Ramp
- ☐ Connector*
- ☐ Extended Weekend Closures*
- ☐ Total Facility Closures*

*Consult with TMP developer and the DTM regarding COZEEP & other costs. Provide proposed detour and traffic diversion plans for review.

CAUTION: If the Lane Requirement Chart (LRC) for full mainline closures, of one or both directions on a highway or freeway, does not show the maximum number of allowable closures, the PS&E shall not be certified by DTM/TMP.

4.3 ☑ Coordinate with adjacent ongoing and planned construction projects - also on detour routes.

4.4 ☐ BEES 066008 Incentives

4.5 ☐ Strictly enforce construction CPM schedule

4.6 ☐ 10-Min. Delay Penalty — Contact DTM at 909-838-6262 for 10 Min. Delay Penalty Calculations.

4.7 ☐ Other

Section 4 Total	$ -

5 Demand Management (DM)

Project team needs to coordinate with RCTC/SANBAG/CVAG

Traffic diversion may increase available work hours.

5.1 ☐ A co-op will be executed - mentioned in PSR or PR.

☐ Instead of a co-op, 15% is added to the cost of DM elements since the payment to the local agency will be routed through the contractor.

Instead of a co-op, the local agency will make their own arrangements with RCTC/SANBAG/CVAG.

PA/CL or local agency need to inform commuters through RCTC/SANBAG. Funds part of PA/CL.

5.2 ☐ HOV Lanes/Ramps (New or Convert)

5.3 ☐ Park-and-Ride Lots

5.4 ☐ Parking Management/Pricing (Coordination with local agency is required)

5.5 ☐ BEES 066067 Rideshare Promotion

5.6 ☐ Other

Section 5 Total	$ -

6 Alternate Route Strategies

Caution - signed detours may require environmental clearance. Traffic diversion may increase available work hours. Please work with Traffic Design. BEES 066060 - ADITIONAL TRAFFIC CONTROL

6.1 ☐ Add Capacity to Freeway connector

6.2 ☐ Ramp Closures

6.3 ☐ Temporary Highway Lanes or Shoulder Use

6.4 ☐ Parking Restrictions

6.5 ☐ Street Improvements

- ☐ State R/W - Signals, Widen, etc.
- ☐ Local R/W - Signals, Widen, etc. co-op or permit may be needed

6.6 ☐ Local Street USE - co-op or Permit may be needed

6.7 ☐ Traffic Control Officers (see 3.1 COZEEP)

6.8 ☐ Signed detour - using State routes

6.9 ☐ Signed detour - using local streets and roads. Coordinate with corresponding local agency.

6.10 ☐ Adjust signals

6.11 ☐ Temporary bicycle or pedestrian facilities

6.12 ☐ Other

Section 6 Total	$ -

TMP Estimate

Developed by	Cuong Tieu	EA#/ID#	1C081(0816000086)	Date	10/31/2019

TMP developer: Amounts under the cost column will automatically be copied from the TMP elements

TMP Elements	Cost
1. Public Information	$110,000
2. Motorist Information Strategies	$0
3. Incident Management	$128,000
4. Construction Strategies	$0
5. Demand Management (DM)	$0
6. Alternate Route Strategies	$0
Total TMP Estimate	$ 238,000

ATTACHMENT O

LIFE CYCLE COST ANALYSIS REPORT

RealCost Input Data

1. Economic Variables	
Value of Time for Passenger Cars ($/hour)	$12.80
Value of Time for Single Unit Trucks ($/hour)	$31.70
Value of Time for Combination Trucks ($/hour)	$31.70

2. Analysis Options	
Include User Costs in Analysis	Yes
Include User Cost Remaining Service Life Value	Yes
Use Differential User Costs	Yes
User Cost Computation Method	Calculated
Include Agency Cost Remaining Service Life Value	Yes
Traffic Direction	Both
Analysis Period (Years)	55
Beginning of Analysis Period	2022
Discount Rate (%)	4.0
Number of Alternatives	3

3. Project Details and Quantity Calculations	
State Route	I-10
Project Type	Rehabilitation
Project Name	EA 08-1C081
Maintenance Service Level	1
Local Region	
County	Riverside - PM 60.7-74.3
Climate Region	Desert .
Analyzed By	AD
Mileposts	
Begin	
End	
Length of Project (miles)	12.65
Comments	Bridge Length is not included in project length. Bridge and Detours cost is not included in initial cost of JPCP and CRCP.

4. Traffic Data	
AADT Construction Year (total for both directions)	30,500
Cars as Percentage of AADT (%)	49.0
Single Unit Trucks as Percentage of AADT (%)	9.4
Combination Trucks as Percentage of AADT (%)	41.6
Annual Growth Rate of Traffic (%)	1.6
Speed Limit Under Normal Operating Conditions (mph)	70
No of Lanes in Each Direction During Normal Conditions	2
Free Flow Capacity (vphpl)	2170
Queue Dissipation Capacity (vphpl)	1700
Maximum AADT (total for both directions)	215,092
Maximum Queue Length (miles)	5
5. Maintenance and Rehabilitation Sequence	

Alternative 1	
Final Pavement Surface	
Design Life	
Activity 1 Name	40YR REHAB (LANE REPLACE)
Activity 1 Year of Action	2022
Activity 1 Annual Maintenance Cost ($1000)	40.48
Activity 1 Activity Service Life (Year)	45
Activity 2 Name	CAPM (CPR C)
Activity 2 Year of Action	2067
Activity 2 Annual Maintenance Cost ($1000)	151.8
Activity 2 Activity Service Life (Year)	5
Activity 3 Name	CAPM (CPR B)
Activity 3 Year of Action	2072
Activity 3 Annual Maintenance Cost ($1000)	75.9
Activity 3 Activity Service Life (Year)	10
Activity 4 Name	CAPM HMA
Activity 4 Year of Action	2082
Activity 4 Annual Maintenance Cost ($1000)	8.8
Activity 4 Activity Service Life (Year)	5
Activity 5 Name	REHAB HMA (20YR)
Activity 5 Year of Action	2087
Activity 5 Annual Maintenance Cost ($1000)	23.2
Activity 5 Activity Service Life (Year)	5
Activity 6 Name	
Activity 6 Year of Action	2092
Activity 6 Annual Maintenance Cost ($1000)	0
Activity 6 Activity Service Life (Year)	0
Alternative 2	
Final Pavement Surface	
Design Life	
Activity 1 Name	40YR REHAB (LANE REPLACE)
Activity 1 Year of Action	2022
Activity 1 Annual Maintenance Cost ($1000)	10.12
Activity 1 Activity Service Life (Year)	55.0
Activity 2 Name	CAPM (PR C)
Activity 2 Year of Action	2077
Activity 2 Annual Maintenance Cost ($1000)	70.84
Activity 2 Activity Service Life (Year)	5.0
Activity 3 Name	CAPM (CPR B)
Activity 3 Year of Action	2082
Activity 3 Annual Maintenance Cost ($1000)	12
Activity 3 Activity Service Life (Year)	10
Activity 4 Name	
Activity 4 Year of Action	2092
Activity 4 Annual Maintenance Cost ($1000)	0
Activity 4 Activity Service Life (Year)	0
Activity 5 Name	
Activity 5 Year of Action	2092
Activity 5 Annual Maintenance Cost ($1000)	1
Activity 5 Activity Service Life (Year)	0
Activity 6 Name	
Activity 6 Year of Action	2092

Activity 6 Annual Maintenance Cost ($1000)	0
Activity 6 Activity Service Life (Year)	0
Alternative 3	
Final Pavement Surface	
Design Life	
Activity 1 Name	REHAB HMA W/ RHMA (20YR)
Activity 1 Year of Action	2022
Activity 1 Annual Maintenance Cost ($1000)	187.22
Activity 1 Activity Service Life (Year)	21
Activity 2 Name	CAPM HMA W/ RHMA
Activity 2 Year of Action	2043
Activity 2 Annual Maintenance Cost ($1000)	207
Activity 2 Activity Service Life (Year)	9
Activity 3 Name	REHAB HMA W/ RHMA (20YR)
Activity 3 Year of Action	2052
Activity 3 Annual Maintenance Cost ($1000)	187
Activity 3 Activity Service Life (Year)	21
Activity 4 Name	CAPM HMA W/ RHMA
Activity 4 Year of Action	2073
Activity 4 Annual Maintenance Cost ($1000)	207
Activity 4 Activity Service Life (Year)	9
Activity 5 Name	
Activity 5 Year of Action	2082
Activity 5 Annual Maintenance Cost ($1000)	0
Activity 5 Activity Service Life (Year)	0
Activity 6 Name	
Activity 6 Year of Action	2082
Activity 6 Annual Maintenance Cost ($1000)	0
Activity 6 Activity Service Life (Year)	0
Alternative 4	
Final Pavement Surface	
Design Life	
Activity 1 Name	NEW/RECONST CRCP (20YR)
Activity 1 Year of Action	2022
Activity 1 Annual Maintenance Cost ($1000)	0
Activity 1 Activity Service Life (Year)	30
Activity 2 Name	CAPM (PR C)
Activity 2 Year of Action	2052
Activity 2 Annual Maintenance Cost ($1000)	0
Activity 2 Activity Service Life (Year)	5
Activity 3 Name	CAPM (PR B)
Activity 3 Year of Action	2057
Activity 3 Annual Maintenance Cost ($1000)	0
Activity 3 Activity Service Life (Year)	10
Activity 4 Name	CAPM (PR A)
Activity 4 Year of Action	2067
Activity 4 Annual Maintenance Cost ($1000)	0
Activity 4 Activity Service Life (Year)	10
Activity 5 Name	20
Activity 5 Year of Action	2077
Activity 5 Annual Maintenance Cost ($1000)	0
Activity 5 Activity Service Life (Year)	0

Activity 6 Name	
Activity 6 Year of Action	2077
Activity 6 Annual Maintenance Cost ($1000)	0
Activity 6 Activity Service Life (Year)	0

Alternative 1	JPCP
Number of Activities	3

Activity 1	40YR REHAB (LANE REPLACE)	
Agency Construction Cost ($1000)	$131,462.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	45.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	40.48	
Work Zone Length (miles)	12.65	
Work Zone Speed Limit (mph)	70	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Activity 2	CAPM (CPR C)	
Agency Construction Cost ($1000)	$5,790.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	5.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	151.8	
Work Zone Length (miles)	12.65	
Work Zone Speed Limit (mph)	70	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End

First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Activity 3	CAPM (CPR B)	
Agency Construction Cost ($1000)	$8,562.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	10.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	75.9	
Work Zone Length (miles)	12.65	
Work Zone Speed Limit (mph)	70	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Alternative 2	CRCP
Number of Activities	2

Activity 1	40YR REHAB (LANE REPLACE)	
Agency Construction Cost ($1000)	$146,447.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	55.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	10.12	
Work Zone Length (miles)	12.65	
Work Zone Speed Limit (mph)	70	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		

Second period of lane closure		
Third period of lane closure		

Activity 2	CAPM (PR C)	
Agency Construction Cost ($1000)	$4,578.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	0	
No of Lanes Open in Each Direction During Work Zone	2	
Activity Service Life (years)	5.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	70.84	
Work Zone Length (miles)	12.65	
Work Zone Speed Limit (mph)	70	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		
Outbound	Start	End
First period of lane closure		
Second period of lane closure		
Third period of lane closure		

Alternative 3	HMA
Number of Activities	4

Activity 1	REHAB HMA W/ RHMA (20YR)	
Agency Construction Cost ($1000)	$69,800.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	182	
No of Lanes Open in Each Direction During Work Zone	1	
Activity Service Life (years)	21.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	187.22	
Work Zone Length (miles)	2.00	
Work Zone Speed Limit (mph)	40	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24

Third period of lane closure		

Activity 2	CAPM HMA W/ RHMA	
Agency Construction Cost ($1000)	$27,767.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	182	
No of Lanes Open in Each Direction During Work Zone	1	
Activity Service Life (years)	9.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	207.46	
Work Zone Length (miles)	2.00	
Work Zone Speed Limit (mph)	40	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		

Activity 3	REHAB HMA W/ RHMA (20YR)	
Agency Construction Cost ($1000)	$58,009.00	
User Work Zone Costs ($1000)		
Work Zone Duration (days)	182	
No of Lanes Open in Each Direction During Work Zone	1	
Activity Service Life (years)	21.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	187.22	
Work Zone Length (miles)	2.00	
Work Zone Speed Limit (mph)	40	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		

Activity 4	CAPM HMA W/ RHMA
Agency Construction Cost ($1000)	$27,767.00

User Work Zone Costs ($1000)		
Work Zone Duration (days)	182	
No of Lanes Open in Each Direction During Work Zone	1	
Activity Service Life (years)	9.0	
Activity Structural Life (years)		
Maintenance Frequency (years)	1	
Agency Maintenance Cost ($1000)	207.46	
Work Zone Length (miles)	2.00	
Work Zone Speed Limit (mph)	40	
Work Zone Capacity (vphpl)	1510	
Traffic Hourly Distribution	Weekday Double-Peak	
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)		
Inbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		
Outbound	Start	End
First period of lane closure	0	5
Second period of lane closure	21	24
Third period of lane closure		

Deterministic Results

Total Cost	Alternative 1: JPCP		Alternative 2: CRCP		Alternative 3: HMA	
	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	$144,225	$0	$146,994	$0	$177,688	$4,832
Present Value	$134,128	$0	$146,670	$0	$105,863 *	$2,193
EUAC	$6,067	$0	$6,634	$0	$4,788	$99

*Explanation and Basis for Adjusting LCCA Software Output

The LCCA Software was developed in 2013 and it is observed that the present value cost generated for the major rehabilitation schedule in "Year 31" of the project's life (analysis period is 55 years) is lower than the current year major rehabilitation estimate cost for HMA. The LCCA for this project aims to compare JPCP, CRCP, and HMA. The realistic/pragmatic difference between the two materials (Concrete and Asphalt) is in the cost of their frequency of repairs and/or maintenance. The expectation is that the cost of a major rehabilitation thirty-one (31) years from the present will in no way be less expensive (that is, cost less) than today's major rehabilitation estimated cost.

As such, the software result for HMA is suspect and Design contacted the software developer at the University of California, Davis. From our conversation, it was clear that the software result is inaccurate. Design subsequently performed the LCCA using Excel-spreadsheet, to obtain a more realistic and reasonable comparison between the present values of the different construction materials. The resulting Agency cost for present value of HMA is **$195,134,000**.

ATTACHMENT P

DESIGN FIELD MEETING

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
DISTRICT 8 • DIVISION OF DESIGN
JOINT DESIGN/MAINTENANCE/CONSTRUCTION/ENVIRONMENTAL/PROJECT MANAGEMENT FIELD MEETING

Contract Number-Project I.D. Number	County, Route, Post Mile	Federal Aid Number
1C081	08-RIV 10-PM R60.1/R74.3	
Project Description		

Instructions: The Project Engineer (PE) shall coordinate with the Project Manager to facilitate the field meetings with representatives from the five Divisions. The joint field meetings shall be held pre-design/Phase 0 and within 2 weeks of the 60% design plans in Phase 1. The PE shall submit the completed sign-in sheet(s) with the design package to the District Office Engineer (DOE). Incomplete submittals will not proceed and DOE will forward to the Design Manager.

Phase 0

Division	Print Name	Signature	Date
Design	DIBORO KANABOLO	Diboro Kanabolo	09-17-2019
	TUAN TRUONG	Tuan Truong	9-17-19
	Fred Asef	Fred Asef	9-17-19
Maintenance	Marcus Austin		9-17-19
Field Construction			
Constructability	Hector Guerrero		9-17-19
Environmental	Chun-Sheng Wang	Chun Sheng Wang	9-17-19
PPM			

Phase 1 60% Design Plan

Division	Print Name	Signature	Date
Design	DIBORO KANABOLO	Diboro Kanabolo	09-17-2019
Maintenance	Marcus Austin		9-17-19
Field Construction			
Constructability	Hector Guerrero		9-17-19
Environmental	Chun-Sheng Wang	Chun Sheng Wang	9-17-19
PPM	WIL SCHOA	Wil Oa	9/17/19

District Office Engineer Accepted ☐ Returned to Design Manager ☐

Print Name	Signature	Date	Date Returned

ATTACHMENT Q

2R PROJECT CERTIFICATION

08 – RIV – 10
PM R60.9/R74.0,
R105.0/R134.0 &
R134.0/R156.5
Project EA 1C080

2R PROJECT CERTIFICATION

A Safety Screening, as required by Design Information Bulletin Number 79, was conducted for the segment of highway identified above in the project description.

REGISTERED PROFESSIONAL ENGINEER
HAISSAM S. YAHIA
No. 56288
Exp. 12-31-16
CIVIL
STATE OF CALIFORNIA

Chief, District Traffic Safety Branch — Date: 1-12-16

This project will be scoped and designed as a 2R Project per the guidance in Design Information Bulletin Number 79. The Safety Screening that was performed will be an integral part of the development of this project.

Deputy District Director for Design — Date: 01/14/16

I concur with the 2R Purpose and Need of this project.

Design Coordinator — Date: 1/28/16

I concur that this project should be scoped and designed as a 2R Project per the guidance in Design Information Bulletin Number 79 and that the Safety Screening associated with this project will be an integral part of the development of this project. Therefore, since the appropriate Purpose and Need for this project is pavement resurfacing and restoration (2R), I have determined that this project is to be delivered as a 2R Project.

District Deputy for Maintenance — Date: 1.15.16

District Deputy for Traffic Operations — Date: 1-13-16

Notes:
1. This certification document shall be filed in the district project history files.
2. A copy of this Certification shall be sent to Headquarters Division of Design, attention Design Report Routing.
3. District organizations with separate Deputies for Maintenance and Operations need the signatures of both individuals.

ATTACHMENT R

RISK REGISTER

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION

RISK REGISTER CERTIFICATION (ACCOUNTABILITY CHECKPOINTS) FORM

PPM-0001 (REV 07/2013)

The risk register is to be approved and signed-off by the District Deputies* listed below for all scalability levels. By signing this form, you are certifying that you have reviewed the risks documented in the register and agree that they have been managed to the extent possible by the PDT.

Project Information	○ Capital Project ○ Major Maintenance Project (Check One)	Total Estimated Const Cost:	$204,950,000
Project ID/District-EA	0816000086		1C081
Project Description	REHABILITATE MAINLINE PAVEMENT, SHOULDERS AND RAMPS		
Project Manager (PM)	Wil Ochoa		
Risk Management Coordinator	Md Shaheed		

☐ No Risk Register Certification Required -- Check box if project is less than $1 million in total cost and risk register not prepared. Sign below and submit this form with PID, PA&ED, PS&E submittals, and RE Handoff Files (as applicable).

Project Manager Signature

PID (Recommended for Capital Projects Only excluding Minor Projects)

Project Manager	Date:
Deputy District Director, Planning	Date:
Deputy District Director, Design	Date:
Deputy District Director, Construction	Date:
Deputy District Director, Right of Way	Date:
Deputy District Director, Environmental	Date:
Deputy District Director, Project Management	Date:

PA&ED (Required for Capital Projects Only)

Project Manager	Sign	*Electronically signed by Wil Ochoa*	Date:	August 11, 2020
Deputy District Director, Design	Sign	*Electronically signed by ELSALEH, JAMAL M*	Date:	August 12, 2020
Deputy District Director, Construction	Sign	*Electronically signed by CONNORS, CHRISTY*	Date:	August 12, 2020
Deputy District Director, Right of Way	Sign	*Electronically signed by GUIRADO, MIRNA R*	Date:	August 20, 2020
Deputy District Director, Environmental	Sign	*Electronically signed by BRICKER, DAVID P*	Date:	August 12, 2020
Deputy District Director, Project Management	Sign	*Electronically signed by MORALES, DIANE N*	Date:	August 18, 2020

Prior to PS&E (Required for Capital Projects and Major Maintenance Projects)

Project Manager	Date:
Deputy District Director, Design	Date:
Deputy District Director, Construction	Date:
Deputy District Director, Right of Way	Date:
Deputy District Director, Environmental	Date:
Deputy District Director, Project Management	Date:

RE File Hand-off (Recommended for Capital Projects and Major Maintenance Projects)

Project Manager	Date:
Deputy District Director, Construction	Date:

EA 1C081 QUALITATIVE RISK REGISTER

EA **1C081**	Phase: **0**	RIV 010 PM: 60.9/74.0	PM: Wil Ochoa	Const Capital Estimate: $204,950K	Project Description: REHABILITATE MAINLINE PAVEMENT, SHOULDERS AND RAMPS
Program Code: 201.122 / HA22	M200 Target: 9/2/20		ARM: Vida Delrooz	R/W Capital Estimate: $9,842K	

Risk No.	Status	Type	Date of Origin / Originator	Updated	Category	Title	Risk Statement	Relevancy/Current Status/Assumptions/Comments/Triggers	Probability	Cost Impact Ph	Cost Impact	Cost Impact Ph	Cost Impact	Schedule Impact Ph	Schedule Impact	Response Strategy	Response Actions	Risk Owner
2	Active	Threat	1/2/2019 / Chun-Sheng Wang	8/7/2020	Environmental	Construction Footprint or scope change	Any project feature change post Draft Environmental Document (DED), that may fall outside or within the current environmental footprint provided to Environmental, may result in additional biological consultation, additional cultural assessments, and longer time for permit processing. This may delay receiving of environmental certification and a increase in cost and a delay in the schedule.	The DED was circulated on 2/3/20; however, any scope changes outside or within the current footprint could require additional biological and/or cultural assessment. This risk is considered based on experience from the other projects. Structural hydraulics has not provided their final recommendation for scour mitigation, so the RSP design may change and footprint may change. Preliminary hydraulics report has been prepared.	High	0				0		Mitigate	Structural hydraulics will continue coordination with structural design and prepare final hydraulics report and RSP design. Any cost and schedule change may need to be adjusted by the PM.	Antonia Toledo
										1	Low			1	High			
										2		9	Low	2				
										3		4	Low	3				

EA 1C081 QUALITATIVE RISK REGISTER

EA 1C081	Phase: 0	RIV 010 PM: 60.9/74.0	PM: Wil Ochoa	Const Capital Estimate: $204,950K	Project Description:
Program Code: 201.122 / HA22	M200 Target: 9/2/20		ARM: Vida Delrooz	R/W Capital Estimate: $9,842K	REHABILITATE MAINLINE PAVEMENT, SHOULDERS AND RAMPS

Risk No.	Status	Type	Date of Origin / Originator	Updated	Category	Title	Risk Statement	Relevancy/Current Status/Assumptions/Comments/Triggers	Probability	Cost Impact Ph	Cost Impact	Cost Impact Ph	Cost Impact	Schedule Impact Ph	Schedule Impact	Response Strategy	Response Actions	Risk Owner
12	Active	Threat	7/14/2020 / Prakash Patel	8/3/2020	Design	Additional Bridge Work	If we need to retrofit/replace the existing bridges, it will affect the project cost and schedule.	All the bridges will be widened to accommodate the detour lane. The existing bridges may not be in compliance with current standards and may need to be replaced/retrofitted to accommodate the widened sections. Alternative planning strategy (APS) is targeted by end of August.	Low	0 1 Low 2 3 Moderate		9 4 High		0 1 Low 2 3 High		Avoid	Efforts will be made to avoid any scope change. Project cost estimate may need to be revised based on future findings. Seismic retrofit cost component will be separated in the APS. PM may have to adjust any updated cost.	Diboro Kanabolo

EA 1C081 QUALITATIVE RISK REGISTER

EA 1C081	Phase: 0	RIV 010 PM: 60.9/74.0	PM: Wil Ochoa	Const Capital Estimate: $204,950K	Project Description:
Program Code: 201.122 / HA22	M200 Target: 9/2/20		ARM: Vida Delrooz	R/W Capital Estimate: $9,842K	REHABILITATE MAINLINE PAVEMENT, SHOULDERS AND RAMPS

Risk No.	Status	Type	Date of Origin / Originator	Updated	Category	Title	Risk Statement	Relevancy/Current Status/Assumptions/Comments/Triggers	Probability	Cost Impact Ph	Cost Impact	Cost Impact Ph	Cost Impact	Schedule Impact Ph	Schedule Impact	Response Strategy	Response Actions	Risk Owner
18	Active	Threat	7/23/2020 / Luz Quinnell	8/3/2020	Environmental	Monarch Butterfly	The monarch butterfly may become federal listed in December 2020 which may require re-evaluating the Biological Assessment and may require additional time in the project schedule to fully analyse the requirements to request an incidental take for monarch. Caltrans may be required to initiate USFWS Section 7 Consultation.	Milkweed is the host plant for monarch and this plant species was identified during the Spring 2020 Plant Surveys. Documentation of this plant species may require USFWS Section 7 Consultation for take of the monarch, if the species is listed in December 2020. This permit typically requires an Environmental Re-evaluation and Section 7 Consultation. Minimum of 6-12 months needed to process these documents. The project would require scope, cost and schedule adjustments.	High	0				0		Accept	Environmental will follow up with USFWS and CDFW to find out the requirements at the earliest possible time. A PCR (for RW capital) may have to be processed if the new estimate shows higher than the programmed amount.	Craig Wentworth
										1				1				
										2		9	Low	2				
										3		4		3	Low			

EA 1C081 QUALITATIVE RISK REGISTER

EA 1C081	Phase: 0	RIV 010 PM: 60.9/74.0	PM: Wil Ochoa	Const Capital Estimate: $204,950K	Project Description:
Program Code: 201.122 / HA22	M200 Target: 9/2/20		ARM: Vida Delrooz	R/W Capital Estimate: $9,842K	REHABILITATE MAINLINE PAVEMENT, SHOULDERS AND RAMPS

Risk No.	Status	Type	Date of Origin / Originator	Updated	Category	Title	Risk Statement	Relevancy/Current Status/Assumptions/Comments/Triggers	Probability	Cost Impact Ph	Cost Impact	Cost Impact Ph	Cost Impact	Schedule Impact Ph	Schedule Impact	Response Strategy	Response Actions	Risk Owner
22	Active	Threat	7/24/2020 / Sunny Yang	8/4/2020	Geotechnical/Str design	Scour Potential	Preliminary Hydraulic Report (PHR) identified some locations as scour critical, and preliminary recommendation is to replace/place RSP. If there are additional scour potentials identified, appropriate measures may need to be implemented, which may increase project cost and delay schedule.	If additional scour potential is identified, we may need to extend the pile length, design RSP etc. 1602 permit recommendation is to grout the RSPs. Scour depths in the channels are a big uncertainty. Since all bridges are founded on piles, deep scour means we need longer piles. For the widening structures, if the piles are sufficiently long, RSP may not be necessary. For the existing structures, if scour is too deep, the existing piles may not have adequate lengths and RSP will probably be needed. RSP may also be needed to protect the channel banks if deemed necessary by hydraulics.	Low	0				0		Mitigate	PHR is already received with preliminary recommendation, Final Hydraulic Report will be submitted in Phase 1 with the final recommendations. Remaining locations can be evaluated during the design phase based on the findings. Project cost may need to be revised based on recommendation. PM may have to adjust the project budget through fund request.	Dawit Worku
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										3	Low	4	Low	3	Low			