

**PROJECT  
PRELIMINARY COST ESTIMATE**

EA: 04-0Q960

EA: 04-0Q960 PID: 418000188

District-County-Route-PM  
4 – Ala – 680 – 20.40/21.88  
4 – CC – 680 – 00.00/14.80  
4 – CC – 24 – 07.77/09.68

PID: 418000188

Type of Estimate : PA/ED - Preliminary Cost Estimate

Program Code : 20.XX.075.600

Project Limits : From Dublin Blvd (Ala R20.5) to N Main St (CC 14.8)

Project Description: Innovate 680 Coordinated Adaptive Ramp Metering PA/ED

Scope : Widen 6 existing ramps to increase storage capacity. Installing ITS equipment and detectors on the mainline.

Alternative : 2

*This Cost Estimate covers work items that are necessary for optimal CARM operations, including several items of work that are part of the Caltrans 04-1Q720 SHOPP project. When the updated estimate from the Caltrans project becomes available, the two project teams should review and reconcile the two estimates to eliminate duplicative items and to apportion the cost between the two projects in an equitable manner.*

**SUMMARY OF PROJECT COST ESTIMATE**

	<u>Current Year Cost</u>	<u>Escalated Cost</u>
TOTAL ROADWAY COST	\$ 26,808,800	\$ 31,382,000
TOTAL STRUCTURES COST	\$ 1,080,000	\$ 1,265,000
SUBTOTAL CONSTRUCTION COST	\$ 27,888,800	\$ 32,647,000
TOTAL RIGHT OF WAY COST	\$ -	\$ -
<b>TOTAL CAPITAL OUTLAY COSTS</b>	<b>\$ 27,889,000</b>	<b>\$ 32,647,000</b>
PR/ED SUPPORT	\$ 1,580,000	\$ 1,580,000
PS&E SUPPORT	\$ 2,450,000	\$ 2,450,000
RIGHT OF WAY SUPPORT	\$ -	\$ -
CONSTRUCTION SUPPORT* (17% Esc. Con.)	\$ 3,200,000	\$ 2,800,000
<b>TOTAL SUPPORT COST</b>	<b>\$ 7,230,000</b>	<b>\$ 6,830,000</b>

<b>TOTAL PROJECT COST</b>	<b>\$ 35,150,000</b>	<b>\$ 39,500,000</b>
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*If Project has been programmed enter Programmed Amount*

	<u>Month</u>	/	<u>Year</u>
Date of Estimate (Month/Year)	9	/	2023
Estimated Construction Start (Month/Year)	8	/	2025
Number of Working Days =			783
Estimated Mid-Point of Construction (Month/Year)	2	/	2027
Estimated Construction End (Month/Year)	8	/	2028
Number of Plant Establishment Days			0

**Estimated Project Schedule**

PID Approval	11/15/2021
PA/ED Approval	2/28/2024
PS&E	9/15/2024
RTL	9/15/2024
Begin Construction	8/15/2025

Reviewed by District O.E. or Cost Estimate Certifier

xx/xx/xxxx	(xxx) xxx-xxxx
Office Engineer / Cost Estimate Certifier	Date Phone

Approved by Project Manager

xx/xx/xxxx	(xxx) xxx-xxxx
Project Manager	Date Phone



**SECTION 1: EARTHWORK**

Item code		<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
190101	Roadway Excavation	CY	4,600	x	35.00	= \$	161,000
170103	Clearing & Grubbing	LS	1	x	40,000.00	= \$	40,000

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$ 201,000</b>
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**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code		<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
390132	Hot Mix Asphalt (Type A)	TON	9,500	x	115.00	= \$	1,092,500
260203	Class 2 Aggregate Base	CY	2,400	x	80.00	= \$	192,000
250401	Class 4 Aggregate Subbase	CY	2,400	x	325.00	= \$	780,000
397005	Tack Coat	TON	5.2	x	700.00	= \$	3,500
398200	Cold Plane Asphalt Concrete Pavement	SQYD	4,540	x	4.00	= \$	18,160

<b>TOTAL PAVEMENT STRUCTURAL SECTION ITEMS</b>	<b>\$ 2,086,200</b>
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Assumed Pavement Section for Estimation Purposes

0.5' HMA

0.25' Class 2 AB

0.25' Class 4 AS

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
XXXXXX Drainage Items	LS	1	x 200,000.00 = \$	200,000
<b>TOTAL DRAINAGE ITEMS</b>				<b>\$ 200,000</b>

**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
080050 Progress Schedule (Critical Path Method)	LS	1	x 3000.00 = \$	3,000
070030 Lead Compliance Plan	LS	1	x 5000.00 = \$	5,000
839701 Concrete Barrier (Type 60M)	LF	4,400	x 105.00 = \$	462,000
150662 Remove Guardrail	LF	1,000	x 12.29 = \$	12,290
832007 Midwest Guard Rail (Wood Post)	LF	9,500	x 50.00 = \$	475,000
832070 Vegetation Control (Minor Concrete)	SQYD	7300	x 70.00 = \$	511,000
846025 Modifying Lighting System (Electroliers)	LS	8	x 15000.00 = \$	120,000
839584 Alternative In-line Terminal System	EA	42	x 3500.00 = \$	147,000
839XXX Crash Cushion	EA	1	x 6000.00 = \$	6,000
839543 Transition Railing (Type WB-31)	EA	1	x 4000.00 = \$	4,000
839580 End Anchor Assembly (Type SFT-M)	EA	42	x 2000.00 = \$	84,000
XXXXXX Standard Retaining Wall	SQFT	0	x \$ 200 = \$	-
<b>TOTAL SPECIALTY ITEMS</b>				<b>\$ 1,829,300</b>

**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity		Unit Price (\$)	=	Cost
XXXXXX Environmental Permits (PEAR)	LS	1	x	10,000.00	= \$	10,000
XXXXXX Environmental Commitments (PEAR)	LS	1	x	300,000.00	= \$	300,000
						<i>Subtotal Environmental Mitigation</i> \$ 310,000

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity		Unit Price (\$)	=	Cost
XXXXXX Landscaping and Irrigation	LS	1	x	100,000.00	= \$	100,000
						<i>Subtotal Landscape and Irrigation</i> \$ 100,000

**5C - EROSION CONTROL**

Item code	Unit	Quantity		Unit Price (\$)	=	Cost
XXXXXX Erosion Control (2% of Tab 3)	LS	1	x	21,000.00	= \$	21,000
						<i>Subtotal Erosion Control</i> \$ 21,000

**5D - NPDES**

Item code	Unit	Quantity		Unit Price (\$)	=	Cost
XXXXXX Trash Capture (SWDR)	LS	1	x	150,000.00	= \$	150,000
XXXXXX Treatment BMP (SWDR)	LS	1	x	250,000.00	= \$	250,000
XXXXXX Construction BMP (SWDR)	LS	1	x	400,000.00	= \$	400,000
						<i>Subtotal NPDES</i> \$ 800,000

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 1,231,000</b>
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**SECTION 6: TRAFFIC ITEMS**

**6A - Traffic Electrical**

Item code	Unit	Quantity	Unit Price (\$)	Cost
XXXXXX Full ramp wiring	EA	4 x	15000.00 = \$	60,000
XXXXXX Power Drop	EA	8 x	7500.00 = \$	60,000
XXXXXX Conduit	LF	26,600 x	60.00 = \$	1,596,000
XXXXXX Furnish and install type 332 cabinet with ATC controller	EA	5 x	25000.00 = \$	125,000
XXXXXX Furnish and install new 29-5-100 traffic signal pole with mast arm	EA	6 x	20000.00 = \$	120,000
XXXXXX 3 section vehicle head	EA	26 x	600.00 = \$	15,600
XXXXXX Pull box	EA	48 x	1000.00 = \$	48,000
XXXXXX Fiber Optic Cable (6 Strand Drop)	LF	6,000 x	2.00 = \$	12,000
XXXXXX Exit Ramp Back of queue Cabinet (communications)	EA	4 x	11000.00 = \$	44,000
XXXXXX Ethernet switch	EA	21 x	4000.00 = \$	84,000
XXXXXX Ethernet Cable (Cat 5)	LF	22,500 x	2.00 = \$	45,000
XXXXXX CARM Implementation at Addtl Ramps	EA	10 x	50000.00 = \$	500,000
XXXXXX Northbound The Infra-Red Traffic Logger (TIRTL) sites	EA	61 x	90000.00 = \$	5,490,000
872133 Modifying Signal and Lighting Systems	LS	1 x	750000.00 = \$	750,000
860807 Inductive Loop Detectors	EA/LS	120 x	1400.00 = \$	168,000
XXXXX Relocate Electroliers	EA	8 x	15000.00 = \$	120,000
<b>Subtotal Traffic Electrical</b>				<b>\$ 9,237,600</b>

**6B - Traffic Signaling and Striping**

Item code	Unit	Quantity	Unit Price (\$)	Cost
XXXXXX End of ramp RC-1 sign	EA	8 x	10000.00 = \$	80,000
XXXXXX RC-1 Pole / Cabinet and foundation	EA	8 x	7500.00 = \$	60,000
XXXXXX Type 1-A on new foundation	EA	16 x	5000.00 = \$	80,000
850102 Pavement Marker (Reflective)	EA	1350 x	9.68 = \$	13,068
840502 6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF	21000 x	1.00 = \$	21,000
XXXXXX Ramp Meter Flashing Beacon with pole and W3-8 sign	EA	12 x	10000.00 = \$	120,000
XXXXXX DMS (dynamic message sign)	EA	32 x	10455.00 = \$	334,560
XXXXXX DMS (dynamic message sign) controller	EA	16 x	1675.00 = \$	26,800
<b>Subtotal Traffic Signaling and Striping</b>				<b>\$ 735,428</b>

**6C - Traffic Management Plan**

Item code	Unit	Quantity	Unit Price (\$)	Cost
XXXXXX TMP Costs (TMP Data Sheet)	LS	1 x	600,000 = \$	600,000
<b>Subtotal Traffic Management Plan</b>				<b>\$ 600,000</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity	Unit Price (\$)	Cost
120100 Traffic Control System	LS	1 x	50,000.00 = \$	50,000
120103 Stationary Impact Attenuator Vehicle	DAY	40 x	750.00 = \$	30,000
120165 Staging and Traffic Handling (20% of TMP)	LS	1 x	120,000.00 = \$	120,000
129015 Mobile Barrier System	DAY	31 x	2,600.00 = \$	80,600
<b>Subtotal Stage Construction and Traffic Handling</b>				<b>\$ 280,600</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 10,853,700</b>
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**SECTION 7: DETOURS**

Includes constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
<b>TOTAL DETOURS</b>				<b>\$ -</b>
SUBTOTAL SECTIONS 1 through 7				\$ 16,401,200

**SECTION 8: MINOR ITEMS**

<b>8A - Americans with Disabilities Act Items</b>				
ADA Items			1.0%	\$ 164,012
<b>8B - Bike Path Items</b>				
Bike Path Items			1.0%	\$ 164,012
<b>8C - Other Minor Items</b>				
Other Minor Items			8.0%	\$ 1,312,096
Total of Section 1-7		\$ 16,401,200	x 10.0%	= \$ 1,640,120
<b>TOTAL MINOR ITEMS</b>				<b>\$ 1,640,200</b>

**SECTIONS 9: MOBILIZATION**

Item code				
999990	Total Section 1-8	\$ 18,041,400	x 10%	= \$ 1,804,140
<b>TOTAL MOBILIZATION</b>				<b>\$ 1,804,200</b>

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
<i>Cost of NPDES Supplemental Work specified in Section 5D = \$ -</i>				
Total Section 1-8		\$ 18,041,400	4%	= \$ 721,656
<b>TOTAL SUPPLEMENTAL WORK</b>				<b>\$ 721,700</b>

**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066105 Resident Engineers Office	LS	1	x 100,000.00 =	\$100,000
Total Section 1-8		\$ 18,041,400	4% = \$	721,656
<b>TOTAL STATE FURNISHED</b>				<b>\$821,700</b>

**SECTION 12: TIME-RELATED OVERHEAD**

Total of Roadway and Structures Contract Items excluding Mobilization \$19,031,400 (used to calculate TRO)  
 Total Construction Cost (excluding TRO and Contingency) \$22,469,000 (used to check if project is greater than \$5 million excluding contingency)

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = **5%**

Item code	Unit	Quantity	Unit Price (\$)	Cost
070018 Time-Related Overhead	WD	783	X 1,215 =	\$951,600
<b>TOTAL TIME-RELATED OVERHEAD</b>				<b>\$951,600</b>

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

**SECTION 13: ROADWAY CONTINGENCY**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-12	\$	22,340,600	x 20% =	\$4,468,120
<b>TOTAL CONTINGENCY</b>				<b>\$4,468,200</b>



**II. STRUCTURE ITEMS**

**Bridge 1**

DATE OF ESTIMATE	01/31/23	00/00/00	00/00/00
Bridge Name	Bollinger OC Abutment 5	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	28-224	57-XXX	57-XXX
Structure Type	TBD	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	16 LF	0 LF	0 LF
Total Bridge Length (Feet)	193 LF	0 LF	0 LF
Total Area (Square Feet)	2998 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0 LF	0 LF	0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$300	\$0	\$0

<b>COST OF EACH</b>	<b>\$900,000</b>		<b>\$0</b>		<b>\$0</b>
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DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF	0 LF	0 LF
Total Length (Feet)	0 LF	0 LF	0 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0 LF	0 LF	0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$100	\$0	\$0

<b>COST OF EACH</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
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<b>TOTAL COST OF BRIDGES</b>	<b>\$900,000</b>
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<b>TOTAL COST OF BUILDINGS</b>	<b>\$0</b>
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Structures Mobilization Percentage	10%	<b>\$90,000</b>
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Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Structures Contingency Percentage	10%	<b>\$90,000</b>
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<b>TOTAL COST OF STRUCTURES</b>	<b>\$1,080,000</b>
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Estimate Prepared By: \_\_\_\_\_  
 XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_  
 Date

### 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	\$	0
C)	C1)	Utility Relocation (State Share)	\$	0
	C2)	Potholing (Design Phase)	\$	0
D)		Railroad Acquisition	\$	0
E)		Clearance / Demolition	\$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$	0
G)		Title and Escrow	\$	0
H)		Environmental Review	\$	0
I)		Condemnation Settlements <u>0%</u>	\$	0
J)		Design Appreciation Factor <u>0%</u>	\$	0
K)		Utility Relocation (Construction Cost)	\$	0

L) 

<b>TOTAL RIGHT OF WAY ESTIMATE</b>	<b>\$0</b>
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M) 

<b>TOTAL R/W ESTIMATE: Escalated</b>
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N) 

<b>RIGHT OF WAY SUPPORT</b>	<b>\$0</b>
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Support Cost Estimate  
Prepared By \_\_\_\_\_ Project Coordinator<sup>1</sup> \_\_\_\_\_ Phone \_\_\_\_\_

Utility Estimate Prepared  
By \_\_\_\_\_ Utility Coordinator<sup>2</sup> \_\_\_\_\_ Phone \_\_\_\_\_

R/W Acquisition Estimate  
Prepared By \_\_\_\_\_ Right of Way Estimator<sup>3</sup> \_\_\_\_\_ Phone \_\_\_\_\_

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

<sup>1</sup> When estimate has Support Costs only

<sup>2</sup> When estimate has Utility Relocation

<sup>3</sup> When R/W Acquisition is required