

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
HONOLULU, HAWAII

## **ENGINEER'S PRELIMINARY DETAIL ESTIMATE**

FOR

PAHOA-KALAPANA ROAD  
2018 KILAUEA ERUPTION PERMANENT REPAIRS  
MILE POST 14.57 TO MILE POST 14.82

FEDERAL-AID PROJECT NO. ER-21(005)

DISTRICT OF PUNA

ISLAND OF HAWAII

July 22, 2021

**ENGINEER'S PRELIMINARY DETAIL ESTIMATE**  
**Federal Aid Project No. ER-21(005) Page 2**  
**7/22/2021**

**TYPE CODE: 06 - REHABILITATION**

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	\$30,000.00
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	\$20,000.00
301.0100	Polymer Modified ACB	1,080	TON	\$ 360.00	\$388,800.00
401.0500	PMA Pavement, Mix No. IV	610	TON	\$ 360.00	\$219,600.00
415.0050	Cold Planing (144 SY)	L.S.	L.S.	L.S.	\$1,450.00
629.0404	4-Inch Double Yellow Pavement Striping (Thermoplastic Extrusion)	1,300	L.F.	\$ 10.00	\$13,000.00
629.0500	8-Inch Pavement Striping (Thermoplastic Extrusion)	2,600	L.F.	\$ 10.00	\$26,000.00
629.2030	Type C Pavement Marker	66	EACH	\$ 12.00	\$792.00
629.2040	Type D Pavement Marker	66	EACH	\$ 12.00	\$792.00
632.4050	Reflector Marker (RM-5, white or yellow) Mounted on Guardrail	54	EACH	\$ 12.00	\$648.00
645.0200	Traffic Control	L.S.	L.S.	L.S.	\$50,000.00

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**7/22/2021**

**TYPE CODE: 06 - REHABILITATION**

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
645.2000	Additional Police Officers, and/or Additional Traffic Control Devices, Additional Electronic Message Boards and Advertisement	F.A.	F.A.	F.A.	\$50,000.00
648.0100	Field-Posted Drawings	L.S.	L.S.	L.S.	\$10,000.00
699.1000	Mobilization (Not to exceed six (6) percent of the sum of all items excluding the bid price of this item)	L.S.	L.S.	L.S.	\$48,664.92
	Sum of All Items (Roadway)				\$859,746.92
	Contingency (5%)				\$42,987.35
	Subtotal				\$902,734.27
	Construction Engineering (15%)				\$135,410.14
	Total Roadway Construction Cost				\$1,038,144.41

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**TYPE CODE: 21 - SAFETY**

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
606.3112	Guardrail Type - Midwest Guardrail System	1,350	LF	\$ 80.00	\$108,000.00
606.3200	Transition Section - Midwest Guardrail System	4	EACH	\$ 1,500.00	\$6,000.00
606.7020	End Anchorage Type - Modified "A-1" Flare End Treatment	4	EACH	\$ 12,000.00	\$48,000.00
	Sum of All Items (Safety)				\$162,000.00
	Contingency (5%)				\$8,100.00
	Subtotal				\$170,100.00
	Construction Engineering (15%)				\$25,515.00
	Total Safety Construction Cost				\$195,615.00

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**S U M M A R Y**

CATEGORY	CONTRACT ITEMS	CONTINGENCIES	CONSTRUCTION ENGINEERING	UTILITY CO. COSTS	TOTAL PROJECT COST	COST TO OTHERS	PARTICIPATING COST	FEDERAL SHARE (80%)	STATE SHARE (20%)
RECONSTRUCTION - NO ADDED CAPACITY, TYPE CODE: 06	\$859,746.92	\$42,987.35	(\$135,410.14)	\$0.00	\$902,734.27	\$0.00	\$902,734.27	\$722,187.41	\$180,546.85
SAFETY TYPE CODE: 21	\$162,000.00	\$8,100.00	(\$25,515.00)	\$0.00	\$170,100.00	\$0.00	\$170,100.00	\$136,080.00	\$34,020.00
SUBTOTAL	\$1,021,746.92	\$51,087.35	\$160,925.14	\$0.00	\$1,072,834.27	\$0.00	\$1,072,834.27	\$858,267.00	\$214,567.00
CONSTRUCTION ENGINEERING, TYPE CODE 17									
Staff Non-Labor (PAR)			\$0.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
State Review (PAR)			\$100,000.00		\$100,000.00	\$0.00	\$100,000.00	\$80,000.00	\$20,000.00
Staff Labor (PAR)			<u>\$60,925.00</u>		<u>\$60,925.00</u>	<u>\$0.00</u>	<u>\$60,925.00</u>	<u>\$48,740.00</u>	<u>\$12,185.00</u>
Total CE Cost			\$160,925.00		\$160,925.00	\$0.00	\$160,925.00	\$128,740.00	\$32,185.00
TOTAL CONSTRUCTION	\$1,021,746.92	\$51,087.35	\$160,925.14	\$0.00	\$1,233,759.27	\$0.00	\$1,233,759.27	\$987,007.00	\$246,752.00

FEDERAL FUNDS REQUIRED (80% PAR) =	\$	987,007.00
STATE FUNDS REQUIRED =	\$	246,752.00
COST TO PRIVATE UTILITIES =	\$	-
COST TO OTHERS =	\$	-
GRAND TOTAL =	\$	<u>1,233,759.00</u>

FED PARTICIPATION	80%
STATE SHARE	20%