

U.S. Department of Transportation Federal Highway Administration- California Division- Title 23 Damage Assessment Form (DAF)		DAF No. LTP - SF - 001 - 1
Applicant City & County of San Francisco		County San Francisco Congressional districts 12
Sheet # 1 of _____ Federal Project # EO ER - TBD ()		Disaster No. CA 17 - 2 PR ER - ()
Incident Date (mm/dd/yyyy) 01/10/2017		Inspection 01/12/2017
Location of Damage: Name of Road/Bridge: _____ PM Begin: 37°44'19.34"N/122°26'33.43"W PM End: 37°44'15.45"N/122°26'32.69"W		Per Site <input checked="" type="checkbox"/> or <input type="checkbox"/> Per Mile Federal-aid Highway? Y for yes, if no, ineligible for ER funds <input type="checkbox"/> Y
Road/Bridge Data: Bridge No n/a Type: n/a		Map No 05131 Functional Classification Type: Other Principal Arterial Route # n/a
Traveled Way: Width 2 x 12' Type: PCC <input type="checkbox"/> AC <input checked="" type="checkbox"/> Gravel <input type="checkbox"/> Shoulder: Width 3'SB 9'NB Type: PCC <input type="checkbox"/> AC <input checked="" type="checkbox"/> Gravel <input type="checkbox"/>		Forest Hwy? Y/N <input type="checkbox"/> N Interstate? Y/N <input type="checkbox"/> N Existing ADT: 20,000
Description of Damage: Fracturing and collapse of a previously stable rock outcropping which, following a storm event, dropped boulders and debris onto O'Shaughnessy Blvd., blocking the southbound lane.		

COST ESTIMATE					
Emergency Opening (EO)	Type of Repair	Description of Work	Cost Summary		
	EO- AGENCY FORCES CT Work Order #(s): _____ EA(s): _____	Road clearing for service restoration; construction management; project management	PE 3,500 CE 10,594 Construction 122,388		
EO- CONTRACT EO EA(s): _____	Scale and remove all loose rocks from the slope, provide and install temporary tie-down of rocks too large to be scaled, and provide and place Jersey barriers and catchment fence, for facility protection	PE 11,800 CE 49,213 Construction 222,000			
NOTE: Environmental documentation for EO is required. It is generally started after work has begun.			R/W		
			Subtotal Emergency Opening	\$419,495	
Permanent Restoration (PR)	PR- CONSTRUCTION FA requires an approved PIF <input checked="" type="checkbox"/> Contract <input type="checkbox"/> FA PR EAs _____	Conceptual design includes rock bolting and wire mesh with scaling and a catchment system. Final design pending detailed engineering analysis.	PE 461,899 CE 365,000 Construction 1,850,000		
	NOTE: PRIOR AUTHORIZATION (APPROVED E-76) IS REQUIRED TO PROCEED WITH PERMANENT RESTORATION R/W & CONSTRUCTION			R/W	0
NOTE: Environmental clearance for permanent restoration is conducted through normal Federal-aid procedures			Subtotal Permanent Restoration	\$2,676,899	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Signature	Date	PE Total	\$477,199	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Local Agency (if applicable): <i>Fernando Cisneros</i>	<i>5/25/17</i>	CE Total	\$424,807	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Caltrans: <i>Oliver Iberien</i>	<i>6/7/17</i>	R/W Total	\$0	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	FHWA*:		Construction Total	\$2,194,388	
TOTAL ESTIMATE				\$3,096,394	

Agency sig. Name (print): Fernando Cisneros FHWA Sig. Name (print): Lanh Phan
 CT signature Name (print): Jimmy Panmai DAF Prepared by (print): Oliver Iberien

Original: Caltrans District **Copies:** FHWA, Division of Local Assistance(local roads), Federal Resources (state hwy), HQ Major Damage Engineer (state hwy)
 *Write "N/A" in FHWA signature block if the project has no Federal ER funding or Federal ER funding delegated to the State.
FHWA Signature: REQUIRED for all Federal Funded State projects. REQUIRED for any Local Agency projects with 1) any BETTERMENT, 2) more than 2 ROW takes or 3) when paving is more than 50% of the Total Estimated Cost. **Reminder: This DAF must be accompanied by photos of the damage.**

**U.S. Department of Transportation
Federal Highway Department - California Division - Title 23 - Emergency Relief
Betterment Justification Form (DAF)**

Sheet No: 4 of 93
DAF No: **LTP-SF-001-1**

ITEM	REPAIR IN-KIND					BETTERMENT						
	UNIT	QUANTITY	UNIT PRICE	COST	UNIT	QUANTITY	UNIT PRICE	COST	UNIT	QUANTITY	UNIT PRICE	COST
Rock scaling and rock tiedowns.	Rock bolting and wire mesh with scaling and a catchment system.											
Preliminary Engineering	LS	1	\$ 15,300	\$ 15,300	LS	1	\$ 461,899	\$ 461,899				\$ 461,899
Construction Engineering	LS	1	\$ 59,825	\$ 59,825	LS	1	\$ 365,000	\$ 365,000				\$ 365,000
Construction - Slope Stabilization	LS	1	\$ 197,000	\$ 197,000	LS	1	\$ 1,850,000	\$ 1,850,000				\$ 1,850,000
Construction - Traffic Control	LS	1	\$ 74,000	\$ 74,000	LS	1						\$ -
Construction - Labor	LS	1	\$ 73,388	\$ 73,388	LS	1						\$ -
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TOTAL				\$ 419,513								\$ 2,676,899

Assume minor repair every 5 years @ \$10,000 / event; Design Life = 50 years.
 Rock Debris Removal and Traffic Control \$2,000(P/F, 0.7%, 0.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50)
 Assume minor rockfall every 1 years @ \$10,000/event; Major rockfall annual probability of occurrence 19% at \$250,000/event; Large-scale slope failure annual probability of occurrence 1.25% at \$4,850,000 per event; Design life = 50 years; Minor+Major+ Slope Failure \$118,125 (P/F, 0.7%, 0.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50)

In this case, betterment is in addition to repair in-kind so consider full betterment cost.

(Additional cost to repair the site as a result of adding the betterment.)

BENEFIT	\$ 500,326
COST	\$ 2,676,899
BENEFIT / COST	1.87

(A Benefit-Cost Ratio of less than 1.00 doesn't necessarily mean automatic rejection. If the Benefit-Cost Ratio is less than 1.00, a justification should be provided in the REMARKS section (provide additional pages, if necessary).)

REMARKS