FEDERAL HIGHWAY ADMINISTRATION, Federal Lands Highway

DAMAGE SURVEY REPORT

(Title 23, Federal-Aid System/Federal Domain)

Sheet No: 6 of 15

DSR No: **MORA-Rte. 102-2**

Disaster No: WA2007-1NPS

Applicant: Mount Rainier National Park	County: Pierce	State: WA	Inspection Date: 01/23/2007
Route 102 - Carbon River road MP 3.1 to MP 3.4 (Green Lake trailhead)			ADT:
Bridge Data:	Road Data:	Classification:	Photograph #:
Type:	Traveled Way Width: 18 ft	Surface Type: gravel	Thickness:4"-6"
ID#:	Shoulder Width:	Surface Type:	

Description and Cause of Damage: Flood flows of November 6 and 7, 2006 eroded river banks, resulting in flood flows overtopping riverbanks and flowing down the Carbon River road. Significant portions of the road were severely eroded and damaged.

Scope/Description of Repair: **MP 3.1 - 3.4** Repair fill erosion around large culvert at MP 3.1; repair fill erosion MP 3.1-3.4; riprap failing bank at MP 3.4

COST ESTIMATE for EMERGENCY REPAIRS*

Quantity	Unit	Item Description	Unit Price	Cost

Proposed: Force Account Contract Total Emergency Repairs $0

COST ESTIMATE for PERMANENT REPAIRS*

Quantity	Unit	Item Description	Unit Price	Cost
1	LS	Mobilization, survey, testing, etc.	$10,000	$10,000
750	CY	select borrow	$25.00	$18,750
300	CY	roadway aggregate surfacing (5/8-in minus)	$50.00	$15,000
380	CY	riprap, class 5	$80.00	$30,400
1	LS	Revegetation (5%)	$4,000	$4,000
		Repair eroded downstream end 8-ft culvert for Ranger Cr at Green Lake trailhead		
		Repair eroded roadway fill with angular topping aggregate for approx 550 ft		
		where erosion is 18-in or more deep		
		Repair scoured surfacing for 1300 ft		
		Riprap failed bank at MP 3.4		
		Subtotal Permanent Repairs (continuation sheet)		

Proposed: Force Account X Contract Total Permanent Repairs $78,150

Identify Betterment, if any, and provide justification*: Install 4-inch minus angular or Class III riprap as an erosion resistant cap over fill as recommended in the 1996 hydraulic report from WFLHD. With this cap only the 5/8 inch minus aggregate surfacing would need to be replaced following future flooding events.

Preliminary Engineering 15%	$11,723
Construction Engineering 10%	$7,815
Right-of-Way	
Other: Compliance (5%)	$3,908
TOTAL ESTIMATED COST (Emergency and Permanent Repairs)	$101,595

Submitted By: (Name and Title) Eric Walkinshaw, Park Engineer		Signature: /s/ Eric Walkinshaw	2/13/2007
Reviewed By: (Name and Title) David F. Kruse, PWR ERFO Coordinator	Eligible **X** Ineligible	Signature: /s/ David F. Kruse	Date: 2/16/07
Recommended By: (Name and Title)	Eligible Ineligible	Signature:	Date:

*Attach Supplemental Sheets if necessary