

Yosemite National Park



1997 Flood Recovery Project Completion Reports



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Transportation Management Packages

900 – Phase I Transportation

Project Transportation Improvements for Yosemite Completed

Location Yosemite Valley

Project Description Transportation improvements for Yosemite Valley through construction of vehicle transfer facility, flood related changes in traffic circulation patterns, and construction of new bikepaths and shuttle bus stops. Specific projects include the flood-related changes of Northside Drive through the Lodge area and rehabilitation of the El Portal Road to accommodate future transportation improvements.

Project Reroute Northside Drive Enjoined / Cancelled

Location Yosemite Lodge

Project Description Reroute traffic away from congested pedestrian crossing for Yosemite Falls.

Team / Contractor NPS Staff, FHWA, DSC, Kiewit Pacific, Sasaki Associates, David Evans & Associates, U.S. DOJ Staff

Start Date / Completion Date 1998 / 2007

Summary of Work Accomplished Finalized planning, design and construction documents for Yosemite Lodge roadway infrastructure/bus stop changes in accordance with original compliance, then placed the project on hold until completion of the *Yosemite Valley Plan*.

Conducted Transportation Symposium Workshop. Compiled historical ridership data for Yosemite Valley shuttle bus system.

Awarded the Package 900 portion of the El Portal Road rehabilitation contract (reference Package 936). Awarded a contract for scope development for transportation planning in support of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*.

Completed construction documents for realignment of Northside Drive as part of the revised Yosemite Lodge site design (reference Package 905). Delayed construction due to a court injunction requiring revision of the *Merced River Plan*. Completed revision of the *Merced River Plan*.



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Resolved court ordered injunction and initiated construction contracting bid process. Contract awarded. A later court ruling on *Merced River Plan* required a stop work order followed by contract cancellation.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Valley Plan, EIS; Yosemite Lodge Area Redevelopment, EA; and El Portal Road Improvement, EA*

Flood Funding	Package – 900	Account Number	Funds Obligated
	Construction	8826-0050-7YA	\$ 6,895,797.69
	Construction Management	8826-0051-7YA	\$ 190,383.76
	Plan / Design	8826-0052-7YA	\$ 1,155,750.02
	Compliance	8826-0053-7YA	\$ 91,679.47
	Management	8826-0054-7YA	\$ 605,940.63
	MRP	8826-0057-7YA	\$ 1,103,803.48
	Total		\$ 10,043,355.05

Contributing Fund Sources None



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901 – Phase II Transportation

Project Transportation improvements for Yosemite Completed
Location Yosemite Valley
Project Description Develop sustainable transportation.

Project Purchase Hybrid Shuttle Buses Completed
Location Yosemite Valley
Project Description Purchase 12 Hybrid shuttle buses from the Flood Recovery funding.

Team / Contractor NPS Staff, DOT Staff, GSA Staff, Jakes Associates, ATTI, California Paving, David Evans & Associates and Concessionaire
Start Date / Completion Date 2000 / 2005

Summary of Work Accomplished This package supported planning for a Yosemite Village information / interpretive / transit station and incorporation of transportation management planning, including reduction of private vehicle parking, and procurement of new shuttle buses. This project resulted in the purchase of 18 heavy duty, low floor, 40' hybrid electric shuttle buses. Minimal improvements were made to the existing maintenance facility to accommodate the new fleet.

The shuttle buses are on routes operated within Yosemite Valley and were designed to operate over the gentle grades on Valley roads and to allow passengers to get on and off the bus easily at the many stops. The buses use the best available fuel and propulsion systems designed for the special characteristics of travel within Yosemite Valley. Buses minimize noise and air pollutant emissions, while providing sufficient capacity and cost-effective, reliable service.

Funding for this package was re-appropriated by Congress from the Department of Energy Clean Coal Act for development of sustainable transportation technologies.

Environmental Compliance *Yosemite Valley Plan, EIS*

Flood Funding	Package – 901	Account Number	Funds Obligated
	Procurement	8826-0060-7YA	\$ 5,246,741.81
	Project Management	8826-0061-7YA	\$ 108,058.39
	Plan / Design / Compliance	8826-0062-7YA	\$ 2,495,424.28
	Total		\$ 7,850,224.48

Contributing Fund Sources Recreation Fee Demonstration \$1,624,911 – PMIS 982
 Federal Lands Highway Program ATP \$3,100,000 – PMIS 56100



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902 – Transportation (FLHP)

Project Transportation Improvements for Yosemite Completed
Location Yosemite
Project Description Development of day use parking area and transportation planning for Yosemite.

Team / Contractor NPS Staff / DSC / FHWA
Start Date / Completion Date 2003 / 2007

Summary of Work Accomplished This package includes improvements to traffic circulation patterns in Yosemite Valley, including a potential intermodal vehicle transfer facility, construction of new bus stops, and related transportation improvements. Although the \$11.1 million for Yosemite transportation was not part of the Emergency Supplemental Appropriations Act, these future-year funds are being committed to the NPS from the Federal Lands Highway Program (FLHP).

Began schematic design of interim improvements to the Yosemite Village parking and bus transit area known as Camp 6 (reference: Project Management Information System [PMIS] package number 84474). Delayed design due to a court injunction requiring revision of the *Merced River Plan*.

Completed 50% schematic design of interim improvements to Camp 6 parking and bus transit area; delayed completion of design until revision of the *Merced River Plan*. Completed revision of the *Merced River Plan*. Resolved court ordered injunction.

A subsequent ruling by the court further enjoined this project pending completion of a legally valid Comprehensive Management Plan for the Merced River.

Environmental Compliance *Yosemite Valley Plan, EIS*

Flood Funding	Package – 902	Account Number	Funds Obligated
	Construction		\$ -0-
	Plan / Design		\$ -0-
	Compliance		\$ -0-
	Total		\$ -0-

Contributing Fund Sources Federal Lands Highway Program ATP \$4,689,964 – PMIS 84474 and 44170



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Buildings Packages

903 – Replace Flood Damaged Buildings

Damage Assessment ID E009 Cancelled

Damage Assessment Estimate \$240,442

Location Residence #818 – Cascades

Damage Description House flooded to 5 feet. Interior finishes damaged (924 SF first floor). Electrical system submerged. House and garage exterior finishes damaged. Debris in culvert near house.

Recommended Action in 1997 Demolish and remove house and garage in the Cascades area. Restore site. Replace with modular house out of flood plain, per GMP.

Project Secure Residence One Completed

Location Yosemite Valley

Project Description Secure building for relocation to historic district.

Damage Assessment ID E061 Completed

Damage Assessment Estimate \$1,343,298

Location Residence #1

Damage Description Resource Management office (3200 SF), garage (800 SF) and operations were damaged and/or destroyed. Water 5 feet above finished floor. Losses include computer, phone, and network equipment (addressed in equipment assessment).

Recommended Action in 1997 Replace with new Resource Management office per GMP. Remove structures, remove road/parking, and restore site. Construct new buildings and associated site/utility work in El Portal.

Team / Contractor NPS Staff, Spencer Associates, T.E. Services, Souza Construction and U.S. DOJ Staff

Start Date / Completion Date 2000 / 2006

Summary of Work Accomplished Removed residence #818 and the garage. Included the employee housing project in the *Yosemite Valley Plan*. Replacement of the house out of the flood plain pursuant to the *Yosemite Valley Plan* was cancelled.

The YVP called for Residence One to be relocated to the Historic District of Yosemite Village and adaptively reused. Due to ongoing litigation the building has been secured



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to prevent further damage. Further work on this project has been cancelled. These projects were cancelled or the scope reduced because the project could no longer be completed due to a change in planning objectives, a Court ordered injunction, or it was determined that the project was no longer necessary to meet management goals.

Completed an Environmental Assessment and construction documents for the Resource Management building (warehouse office addition) in El Portal. The EA was replaced by the *Yosemite Valley Plan*.

Placed the Resource Management Building on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*.

Finalized construction drawings and selected a minority-owned small business construction contractor; and awarded a contract for the office addition. Issued a stop work order postponing construction pending the outcome of a Court hearing regarding the validity of the *Merced River Plan*. Renegotiated with the Resource Management building contractor regarding costs of delay. Received a court ruling allowing construction to proceed. Completed construction of the Resource Management building.

Environmental Compliance CEs: 99506 and 2003-017, and *Yosemite Valley Plan, EIS*

Flood Funding	Package – 903	Account Number	Funds Obligated
	Construction	8826-0100-7YB	\$ 4,106,655.88
	Construction Management	8826-0101-7YB	\$ 311,374.97
	Plan / Design	8826-0102-7YB	\$ 303,384.15
	Compliance	8826-0103-7YB	\$ 64,084.97
	MRP	8826-0107-7YB	\$ 320,955.28
	Secure Residence #1	8826-0108-7YB	\$ 2,497.56
	Total		\$ 5,108,952.81

Contributing Fund Sources None



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904 – Construct Temporary Contact Stations

Damage Assement ID	E051	Cancelled
Damage Assement Estimate	\$26,589	
Location	El Portal	
Damage Description	The fragmented road system requires new temporary entrance stations to control access to the park.	
Recommended Action in 1997	Install temporary entrance station and gates at Hwy 140 and Parkline (west boundary).	
Damage Assement ID	M030	Cancelled
Damage Assement Estimate	26,589	
Location	Big Oak Flat Entrance Station	
Damage Description	Access control is needed at the intersection of Crane Flat Road and Tioga Road during summer of 1997.	
Recommended Action in 1997	Install temporary entrance station (kiosk) and gates at Crane Flat.	
Damage Assement ID	V159	Cancelled
Damage Assement Estimate	\$26,589	
Location	Yosemite Valley	
Damage Description	Temproary controls are needed to manage access to park.	
Recommended Action in 1997	Install temporary entrance stations and gates at intersection of El Portal Road and Big oak Flat Road.	
Damage Assement ID	W020	Cancelled
Damage Assement Estimate	26,589	
Location	Wawona	
Damage Description	Temporary access control is required on Wawona Road a Chinquapin.	
Recommended Action in 1997	Install temporary entrance sation (kiosk) and gates on Wawona Road at its intersection with Glacier Point Road.	

Team / Contractor	NPS Staff
Start Date / Completion Date	2003 / 2003

Summary of Work Accomplished	Worked with park staff to evaluate visitor management needs during construction on the El Portal Road (began in September 1998) and in Yosemite Valley. Determined that the temporary contact stations would not be needed. Package cancelled.
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Environmental Compliance None Required

Flood Funding	Package – 904	Account Number	Funds Obligated
	Construction		\$ -0-
	Plan / Design		\$ -0-
	Compliance		\$ -0-
	Total		\$ -0-

Contributing Fund Sources None



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905 – Reconstruct Yosemite Lodge

Damage Assessment ID	V053	Completed by Concessionaire
Damage Assessment Estimate	\$973,725	
Location	Yosemite Lodge, Maple Cottage	
Damage Description	Eighteen inches of flooding caused extensive damage to finishes in 18 units of the 7000 SF first floor.	
Recommended Action in 1997	Replace/repair damaged finishes, fixtures, and equipment throughout first floor. This includes: flooring, carpet, gypsum drywall, doors, bath fixtures, and trim. Upgrade electrical per NEC.	
Damage Assessment ID	V145	Completed by Concessionaire
Damage Assessment Estimate	\$625,966	
Location	Yosemite Lodge, Juniper Cottage	
Damage Description	Flood water rose to one foot above finished floor, damaging finishes in the 4500 SF (10 rooms) first floor.	
Recommended Action in 1997	Repair flooring, insulation, gypsum board, doors, trim, fixtures and equipment. Upgrade electrical per NEC.	
Damage Assessment ID	V146	Enjoined / Cancelled
Damage Assessment Estimate	\$973,725	
Location	Yosemite Lodge, Hemlock Cottage	
Damage Description	Flood waters 30" above finished floor damaged finishes, fixtures, furnishing in 7000 SF (17 rooms) first floor of lodge.	
Recommended Action in 1997	Replace flooring, remove sheetrock, insulation and replace. Repaint, repair/replace furnishing, fixtures and equipment as required. Repair work superseded by replacement of Yosemite Lodge per VIP.	
Damage Assessment ID	V150	Enjoined / Cancelled
Damage Assessment Estimate	\$625,966	
Location	Yosemite Lodge, Alder Cottage	
Damage Description	Flood waters rose to 30" above the finished floor, causing extensive damage to finishes in 10 first floor rooms of this 4500 SF motel unit.	
Recommended Action in 1997	Replace flooring, wall sheetrock and insulation. Rehabilitate electrical to meet NEC. Repairs superseded by facility relocation per VIP.	
Damage Assessment ID	V269	Enjoined / Cancelled
Damage Assessment Estimate	\$9,901,791	
Location	Yosemite Lodge, Guest Cabins with Bath	



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Damage Description	Flooding damaged 100 guest cabins with bath, support buildings and grounds.	
Recommended Action in 1997	Replace per the GMP and CSP. Remove 100 cabins with bath and construct 74 cottage rooms outside the floodplain. All work includes related service facilities, sitework and infrastructure.	
Damage Assement ID	V275	Enjoined / Cancelled
Damage Assement Estimate	\$4,929,831	
Location	Yosemite Lodge, Oak Cottage	
Damage Description	Flood damage to 30 rooms in Oak Cottage. All rooms and surrounding grounds are flood damaged.	
Recommended Action in 1997	Relocate due to flood damage. Amend planning documents to include removal of Oak Cottage and construction of equivalent outside the floodplain. All work includes related service facilities, site work, and infrastructure.	
Damage Assement ID	V276	Enjoined / Cancelled
Damage Assement Estimate	5,209,231	
Location	Yosemite Lodge, Pine Cottage	
Damage Description	Flood damage to 28 first floor rooms in Pine Cottage, as well as surrounding grounds.	
Recommended Action in 1997	Relocate due to flood damage. Amend planning documents to include removal of Pine Cottage and construction of equivalent outside the floodplain. All work includes related service facilities, site work, and infrastructure.	
Damage Assement ID	V279	Enjoined / Cancelled
Damage Assement Estimate	\$8,371,453	
Location	Yosemite Lodge, Cabins without Baths (WOB)	
Damage Description	Flooding damaged 90 quest cabins without baths, bathhouse, support buildings and grounds.	
Recommended Action in 1997	Replace per the GMP and CSP. Remove 90 WOB cabins and bathhouse. Construct 60 quad units outside the floodplain. All work includes related service facilities, site work and infrastructure.	
Team / Contractor	NPS Staff, DSC, URS, Sasaki Associates, Butts Construction, Architectural Resource Group and Siegal and Strain Architects	
Start Date / Completion Date	1998 / 2008	



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**Summary
of Work
Accomplished**

Completed an Environmental Assessment (EA) and demolished 248 flooded lodge units and 30 support buildings. Completed the design and construction documents for the replacement buildings, site work and infrastructure.

Construction documents for Yosemite Lodge Reconstruction project were completed prior to a court decision regarding fragmented planning. New planning objectives in the *Yosemite Valley Plan* changed the scope of the Lodge redevelopment area and the previously prepared construction documents required redesign.

The new construction documents for the Yosemite Lodge Redevelopment and Curry Village Cabins project were completed and a construction contract awarded. The Yosemite Lodge Area Redevelopment project included the Yosemite Lodge, Camp 4, Northside Drive realignment, Indian Cultural Center at the site of the last historically occupied Indian village in Yosemite Valley.

A subsequent court ruling required a stop work order followed by contract cancellation. Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Lodge EA; Yosemite Valley Plan EIS; Yosemite Lodge Area Redevelopment, EA; and Curry Village and East Yosemite Valley Campground Improvement Project, EA*

Flood Funding	Package – 905 (Lodge)	Account Number	Funds Obligated
	Construction	8826-0120-7YB	\$ 2,497,095.54
	Construction Management	8826-0121-7YB	\$ 1,111,021.73
	Plan / Design	8826-0122-7YB	\$ 6,951,603.01
	Compliance	8826-0123-7YB	\$ 604,191.82
	Management	8826-0124-7YB	\$ 5,273,717.14
	YVP - Lodge	8826-0126-7YB	\$ 3,108,571.19
	Indian Cultural Center	8826-0128-7YB	\$ 746,878.09
	Subtotal		\$ 20,293,078.52
	Package – 905 (Curry Cabins)	Account Number	Funds Obligated
	Plan / design	8826-A122-7YB	\$ 151,776.44
	Compliance	8826-A123-7YB	\$ 105,536.62
	Subtotal		\$ 257,313.06
	Grand Total		\$ 20,550,391.58

Contributing Fund Sources None



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906 – Relocate Concession Employee Housing

Damage Assessment ID	V268	Completed
Damage Assessment Estimate	\$8,895,372	
Location	Camp Six	
Damage Description	Concessionaire housing destroyed by flood. This includes 80 tent cabins (148 beds), 4000 SF of structures, 2200 SY of pavement and related utilities and grounds.	

Recommended Action in 1997	Demolish and remove Camp Six, and restore 13.5-acre site. Build new employee dorms to replace lost beds. Of the 148 beds, 45 will be included in Yosemite Lodge (see V277). Only the remaining 103 beds and related infrastructure will need to be built to complete the replacement of Camp Six per the Housing Plan (location to be determined). All housing will be located out of the floodplain.	
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Damage Assessment ID	V277	Completed
Damage Assessment Estimate	\$27,312,791	
Location	Yosemite Lodge – Annex and Ozone Housing	
Damage Description	Flooding damaged employee housing, support buildings and grounds. These include Annex Cabins, Annex Dorms and Ozone Tents (a total of 291 beds).	

Recommended Action in 1997	Relocate per the Housing Plan. Construct housing to accommodate 336 employee beds outside the floodplain. All work includes related service facilities, site work and infrastructure.	
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Team / Contractor	NPS Staff, Watts Constructor, URS, ARG, Kennedy Jenks and Sasaki Associates	
Start Date / Completion Date	1998 / 2006	

Summary of Work Accomplished	Completed an Environmental Assessment for lodge area reconstruction. Removed 439 concession employee bed spaces located in flooded tent cabins and dormitories. New employee housing structures were constructed for concession employees to accommodate approximately 217 employees.
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Completed the design and construction documents for the buildings, sitework and infrastructure. Put award of construction contracts on hold due to lawsuits. Incorporated this package into the *Yosemite Valley Plan* to address a preliminary injunction regarding cumulative impacts. Placed the package on hold until completion of the *Yosemite Valley Plan*; issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00.



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New planning objectives in the *Yosemite Valley Plan* (YVP) resulted in a change of the housing location from Yosemite Lodge area to Curry Village. Previously prepared construction documents required redesign.

Completed design development, conducted a value analysis to reduce costs, completed tree removal, and completed construction documents. Delayed construction due to a court injunction requiring revision of the *Merced River Plan*. Received a court ruling allowing construction to proceed. Completed construction of 27 buildings including 22 residential units, 4 common use buildings, and a wellness center to accommodate concession employees.

Environmental Compliance *Yosemite Valley Plan, EIS and Curry Village and East Yosemite Valley Campground Improvement Project, EA*

Flood Funding	Package – 906	Account Number	Funds Obligated
	Construction	8826-0130-7YB	\$ 27,935,036.97
	Construction Management	8826-0131-7YB	\$ 2,509,527.94
	Plan / Design	8826-0132-7YB	\$ 4,215,248.34
	Compliance	8826-0133-7YB	\$ 548,802.28
	Management	8826-0134-7YB	\$ 6,064,654.05
	Revegetation	8826-0135-7YB	\$ 331,485.76
	YVP Housing	8826-0136-7YB	\$ 2,696,719.29
	Total		\$ 44,301,474.63

Contributing Fund Sources None



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907 – Reconstruct Housekeeping Camp

Damage Assessment ID	V270	Enjoined / Cancelled
Damage Assessment Estimate	\$7,541,799	
Location	Housekeeping Camp	
Damage Description	Extensive flood damage to Housekeeping cabins (268 units), support buildings and grounds.	
Recommended Action in 1997	Redesign per CSP and GMP. The current plan includes 230 units, associated service facilities and infrastructure.	

Team / Contractor	NPS Staff
Start Date / Completion Date	2001 / 2005

Summary of Work Accomplished Emergency repairs were performed by and at the expense of park concessioners.

Completed a preliminary rockfall hazard study for the Housekeeping Camp area (part of a larger rockfall study for the entire east Yosemite Valley) to identify zones for relocating structures, and received the rockfall analysis final report. Completed a tree root rot study to identify the extent of disease and avoid construction-caused spread.

Placed this package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*. Postponed work on Housekeeping Camp reconstruction until completion of higher-priority *Yosemite Valley Plan* implementation projects.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Valley Plan, EIS*

Flood Funding	Package – 907	Account Number	Funds Obligated
	Plan / Design	8826-0142-7YB	\$ 5,830.25
	Total		\$ 5,830.25

Contributing Fund Sources None



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908 – Repair Concession Buildings

Damage Assessment ID	V015	Completed by Concessionaire
Damage Assessment Estimate	\$14,705	
Location	Nurse's Dorm	
Damage Description	Indian Creek overflow poured into crawl space of dorm. After it filled crawl space, it poured into lower rooms (formerly garages).	
Recommended Action in 1997	Remove 270 SF drywall on back wall. Replace 600 SF flooring. Clean crawl space.	
Damage Assessment ID	V071	Completed by Concessionaire
Damage Assessment Estimate	\$9,936	
Location	Yosemite Village Garage	
Damage Description	Garage flooded six feet above floor, damaging office and storage area flooring and mechanical system.	
Recommended Action in 1997	Replace office flooring, clean up debris, and repair or replace boiler equipment.	
Damage Assessment ID	V073	Completed by Concessionaire
Damage Assessment Estimate	\$165,931	
Location	Ahwahnee Meadow Row Housing, H-114, H116 through H-119	
Damage Description	High water flooded: two garages (12"); a laundry room; a front room; and a crawl space, damaging floor insulation.	
Recommended Action in 1997	Garages: clean, touch-up paint, duct work (600 SF). Houses: replace floor insulation, clean crawl space (7200 SF). Laundry and front room: Replace flooring and wall finishes (900 SF).	
Damage Assessment ID	V111	Completed by Concessionaire
Damage Assessment Estimate	\$6,955	
Location	Security Building, Yosemite Village	
Damage Description	Carpet flooded in two 12' x 20' buildings. Corner of buildings and porch undermined.	
Recommended Action in 1997	Replace carpet and floor insulation (500 SF). Jack up building corner and repair undermining.	
Damage Assessment ID	V152	Completed by Concessionaire
Damage Assessment Estimate	\$9,290	
Location	Curry Village, Cabin 61	
Damage Description	Creek flooded into 600 SF cabin, damaging carpet and heater.	
Recommended Action in 1997	Replace carpet and floor insulation (600 SF). Repair heater.	



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Damage Assessment ID V153 Completed by Concessionaire
Damage Assessment Estimate \$9,936
Location Curry Village
Damage Description Flood waters: eroded the creek near cabins 52 and 61; filled a culvert with silt; undermined the porch at cabin 52; and flooded the floor of cabin 61.
Recommended Action in 1997 Install 111 CY of fill material and clean out culvert. Replace 157 SF of carpet and floor insulation in cabin 61.

Damage Assessment ID V157 Completed by Concessionaire
Damage Assessment Estimate \$3,185
Location Curry Village, Cabin 27
Damage Description Creek flooded into 800 SF cabin, damaging carpet.
Recommended Action in 1997 Replace 800 SF carpet.

Team / Contractor Park Concessionaire
Start Date / Completion Date 1997 / 1998

Summary of Work Accomplished Emergency repairs were performed by and at the expense of park concessioners. Replaced sheetrock and floor covering in the downstairs apartment of the nurses' dorm. Repaired three Ahwahnee Row houses. Cleaned, stabilized and replaced flooring in the Yosemite Village Garage and Security buildings. Repaired two cabins at Curry Village before the summer season.

Environmental Compliance CEs: 97211, 97082, 97161, 97178, 97086, 97229, and 97279

Flood Funding	Package – 908	Account Number	Funds Obligated
	Construction		\$ -0-
	Plan / Design		\$ -0-
	Compliance		\$ -0-
	Total		\$ -0-

Contributing Fund Sources Park Concessionaire



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

909 – Repair High Sierra Camps

Damage Assessment ID	H013	Completed
Damage Assessment Estimate	\$496,799	
Location	High Sierra Camps and Tuolumne Backcountry	
Damage Description	Damage anticipated to buildings, grounds and utilities in five High Sierra Camps, Crane Flat, White Wolf Lodge and Tuolumne Meadows.	
Recommended Action in 1997	Complete damage assessment during the summer of 1997. Repair and replace as needed.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1998 / 2001

Summary of Work Accomplished Replaced backup generator for water and sewer systems that serve the Tuolumne Meadows area, including High Sierra camps.

Environmental Compliance None Required

Flood Funding	Package – 909	Account Number	Funds Obligated
	Construction	8826-0160-7YB	\$ 20,107.09
	Total		\$ 20,107.09

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

910 – Repair Yosemite Valley Chapel

Damage Assessment ID	V009	Completed
Damage Assessment Estimate	\$377,554	
Location	Chapel	
Damage Description	Water rose to 8' above grade, 3' above finished floor on 3600 SF chapel. Other flooded areas include: HVAC, underground duct to building, fire sprinkler, telephone, pews, organ, piano and altar furnishings. Floor finishes damaged.	
Recommended Action in 1997	Repair/replace finishes and systems throughout. Replace office area wall with sheetrock (1400 SF). Remove horizontal interior siding and reinstall (3800 SF). Replace carpet (1850 SF). Repair HVAC and fire sprinkler. Repair/replace furnishings and doors. Repair exterior stone veneer (260 SF) and siding (520 SF). Make accessibility improvements. Work underway by day labor and minor contracts.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 1999

Summary of Work Accomplished Repaired/replaced the fire protection system, interior siding, insulation, floor coverings and furnishings. Remodeled the offices, restroom and entry to meet accessibility codes. Relocated the heating/cooling system into the attic. Replaced deteriorated rock-veneer and wood skirting. Installed a new sewage vault. Installed a paved walk to the new accessible lift, completing the package.

Environmental Compliance CEs: 97066 and 98518

Flood Funding	Package – 910	Account Number	Funds Obligated
	Construction	8826-0170-7YB	\$ 154,747.65
	Plan / Design	8826-0172-7YB	\$ 4,294.73
	Compliance	8826-0173-7YB	\$ 1,175.12
	Total		\$ 160,217.50

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

911 – Repair Yosemite Valley Comfort Stations

Damage Assessment ID	V021	Completed
Damage Assessment Estimate	\$4,968	
Location	Mirror Lake Comfort Station	
Damage Description	Water flooded 18" to 24" in this comfort station. Erosion under slab.	
Recommended Action in 1997	Remove siding and clean. Replace siding, repaint. Repair erosion.	
Damage Assessment ID	V022	Completed
Damage Assessment Estimate	\$6,160	
Location	Cathedral Picnic Area Vault Toilet	
Damage Description	Vault toilets flooded, dispensing sand and sewage onto floors. Silt washed into picnic area.	
Recommended Action in 1997	Remove silt, clean toilets, wash inside walls and scrub floors. Remove siding, clean between wood walls and plastic inside wall. Repaint station.	
Damage Assessment ID	V110	Completed
Damage Assessment Estimate	\$3,974	
Location	Valley View Comfort Station	
Damage Description	Vault toilet flooded about 3'. Dirty inside toilet and in walls. Logs and debris deposited in area.	
Recommended Action in 1997	Remove 2' of siding and clean between outer and inner walls. Clean inside toilet enclosure. Prepare and prime damaged siding. Paint outside of station. Cut up and remove logs on walk. Remove debris.	
Damage Assessment ID	V133	Completed
Damage Assessment Estimate	\$6,238	
Location	Bridalveil Fall Vault Toilet	
Damage Description	Comfort station flooded, leaving mud in the center of the walkway, dirtying four stalls, and rendering the drainage around the station ineffective. Sand deposited in parking area.	
Recommended Action in 1997	Replace bottom 2' of siding. Clean between outer and inner walls. Clean stalls and walkway. Grade and remove sand in parking lot.	
Damage Assessment ID	V173	Completed
Damage Assessment Estimate	\$7,154	
Location	Happy Isles Information Trailer, Restroom	
Damage Description	Minor flooding damaged flooring in 600 SF trailer.	
Recommended Action in 1997	Replace 600 SF of flooring in trailer.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Team / Contractor NPS Staff / Garic Painting
Start Date / Completion Date 1997 / 1998

Summary of Work Accomplished Minor emergency repairs and cleanup were completed by volunteer crews to make the facilities usable for the summer 1997 season. Completed the Mirror Lake comfort station through a Youth Conservation Corps (YCC) crew. Completed the Happy Isles comfort station under contract. Repaired the Cathedral and Valley View comfort stations through YCC crews. Repaired the Bridalveil comfort station through an international volunteer crew.

Environmental Compliance CEs: 97212, 97213, 97170, 97268, and 97280

Flood Funding	Package – 911	Account Number	Funds Obligated
	Construction	8826-0180-7YB	\$ 12,960.48
	Plan / Design / Compliance	8826-0182-7YB	\$ 1,387.63
	Total		\$ 14,348.11

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

912 – Repair Flood Damaged Buildings

Damage Assessment ID	E013	Completed
Damage Assessment Estimate	\$133,142	
Location	Arch Rock Housing, Public Washrooms, Fee Collection Booth	
Damage Description	Flood water crested to about 12" above finished floor in all buildings, including 80 SF fee collection booth, 210 SF fee collection office, 280 SF public restroom, and 2350 SF residence #803. Water eroded finish grade on three sides of residence, washed out 30' of 6' high privacy fence, damaged tile wall in restroom, and destroyed carpet in residences. Possibly damaged a through-wall air conditioning unit in fee collection booth. Residence #803 has asbestos.	
Recommended Action in 1997	Clean, dry and disinfect all areas. Remove and replace carpet and ceramic tile. Regrade exterior around building. Salvage and reinstall fence. Replace fee collection air conditioning unit. Prepare and repaint exterior shingle siding (7 courses). Abate asbestos.	
Damage Assessment ID	E015	Completed
Damage Assessment Estimate	\$29,808	
Location	Resource Management Office Cascades Building #820	
Damage Description	Minor debris on the site. Building (925 SF) flooded to sub-floor. Garage flooded one foot deep. Exterior finishes damaged.	
Recommended Action in 1997	Clean debris from the site. Replace the floor insulation/carpet (925 SF). Repair garage finishes. Prepare and paint exterior finishes.	
Damage Assessment ID	V011	Completed
Damage Assessment Estimate	\$66,474	
Location	Backcountry Utility Trailer	
Damage Description	Trailer flooded 3' above finished floor and 66" above grade, causing extensive damage. Loading dock destroyed.	
Recommended Action in 1997	Replace 720 SF trailer, 500 SF loading dock and furnishings.	
Project	Replace Residence #8 Storage Shed	Completed
Location	Yosemite Valley	
Project Description	Reconstruct historic storage building	
Team / Contractor	NPS Staff	
Start Date / Completion Date	1997 / 2002	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Summary of Work Accomplished

Relocated the backcountry utilities group from its flooded office/shop in Camp Six to a remodeled area in the central maintenance facility. Completed the interior repairs to the Arch Rock duplex residence, making it usable for summer employee housing. Completed the exterior repairs and abatement of asbestos from the crawlspace in Arch Rock housing.

Evaluated demolition versus repair of the Cascade administration building due to discontinuation of sewer service; determined the building should be removed; removed building. Reconstructed Residence 8 storage building to match its historical appearance.

Environmental Compliance CEs: 97206, 97207, 97210, and 98504

Flood Funding	Package – 912	Account Number	Funds Obligated
	Construction	8826-0190-7YB	\$ 123,818.46
	Plan / Design / Compliance	8826-0192-7YB	\$ 8,862.53
	Total		\$ 132,680.99

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Cultural Resources Packages

913 – Site Data Collection – El Portal & Yosemite

Damage Assessment ID	E071	Completed
Damage Assessment Estimate	\$13,272	
Location	Prehistoric Archeological Site CA-MRP-355 at Incline Road	
Damage Description	A single-boulder milling feature was 75% undercut by high water. The riverbank severely eroded, and is now an unstable boulder field.	
Recommended Action in 1997	Stabilize milling station before spring run-off. Linked with V215.	
Damage Assessment ID	E082	Completed
Damage Assessment Estimate	\$5,309	
Location	Archeological Site CA-MRP-251	
Damage Description	Site surface was eroded by floodwaters, exposing historic materials (iron implements, ceramic vessels, glass bottles).	
Recommended Action in 1997	Document post-flood condition of site. Collect exposed artifacts. Catalog materials and access into museum collection.	
Damage Assessment ID	E083	Completed
Damage Assessment Estimate	\$5,309	
Location	Archeological Site CA-MRP-358	
Damage Description	Site was inundated by high water, and archeological deposits adjacent to a milling feature were severely eroded. One new milling feature was uncovered, and historic debris was exposed.	
Recommended Action in 1997	Document site condition and new feature. Collect exposed and at-risk artifacts. Catalog materials and access into museum collection.	
Damage Assessment ID	E084	Completed
Damage Assessment Estimate	\$6,769	
Location	Archeological Site CA-MRP-382	
Damage Description	High water and run-off eroded the shoulders of the utility road leading from Rancheria Court to the water tanks. This erosion undercut a potential burial area (human tooth discovered in 1995).	
Recommended Action in 1997	Stabilize 30 LF of road shoulder. Coordinate with E043 work.	
Damage Assessment ID	V215	Completed
Damage Assessment Estimate	\$13,272	
Location	Archeological Site CA-MRP-515	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Description	Single boulder milling feature on riverbank was severely undercut by flooding and in danger of falling in the river.		
Recommended Action in 1997	Stabilize milling feature before spring run-off. Link with E071.		
Project	Document Gathering Areas: EP2, EP3, EP6 and EP7	Completed	
Location	El Portal		
Project Description	Complete site records		

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 2004

Summary of Work Accomplished Updated and finalized the site record for CA-MRP-358/H, documented flood erosion, and collected and cataloged exposed historic artifacts. Stabilized large, tilting, undercut bedrock milling feature at CA-MRP-355 to prevent further slippage into the river, carried out the stabilization of this feature in conjunction with the reconstruction of slope fill on Incline Road, and completed the site record.

Added to this package four archeological sites that were not discovered during the original damage assessments, and completed the site records. Received data on ten previously undocumented Traditional Gathering Areas in El Portal discovered during flood damage evaluations, input this new data (plants, uses, locations) into the California Department of Parks and Recreation site records, submitted the data to the State Archeological Information Center, and prepared archival materials.

Finalized all site records, completed artifact catalog, updated GIS databases, and archived all project materials.

Environmental Compliance CEs

Flood Funding	Package – 913	Account Number	Funds Obligated
	Site work	8826-0200-7YC	\$ 17,806.98
	Total		\$ 17,806.98

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

914 – Prehistoric Site Stabilization – El Portal

Damage Assessment ID	E073	Completed
Damage Assessment Estimate	\$457,253	
Location	Archeological Site CA-MRP-181	
Damage Description	Floodwaters eroded the riverbank, removing up to 15 horizontal feet of bank; exposing and undercutting up to five vertical feet of archeological deposits along 200 LF of the site. Exposed materials include obsidian, ground stone, bone (possible human) and other archeological materials	
Recommended Action in 1997	Conduct data recovery excavations along 200 LF edge of site. Stabilize slope and 1500 LF of riverbank. Construct 1600 LF of fencing to protect stabilized riverbank. Provide for Native American monitor, special treatment of human remains, and reburial.	
Project	Repatriation of Bone	Completed
Location	El Portal	
Project Description	Repatriation of bone found behind YA Office.	
Project	Stabilize Archeological Site	Completed
Location	El Portal	
Project Description	Stabilize site at Redbud rafting launch site.	
Team / Contractor	NPS Staff and O’Neill Construction	
Start Date / Completion Date	1997 / 1997	

Summary of Work Accomplished

Stabilized 200 feet of exposed midden deposit at site CA-MRP-181 along the Merced River using filter fabric, sandbags, and grouted riprap, completed a summary report detailing the archeological and stabilization efforts, and submitted site data and maps to the State Archeological Information Center.

Documented American Indian human remains, implemented Native American Graves Protection and Repatriation Act (NAGPRA) procedures including consultation with affiliated American Indian groups regarding repatriation, finalized consultation, carried out reburial of the human remains in partnership with two affiliated tribes, and completed a final report documenting the reburial.

Reestablished a gravel and soil road base at site CA-MRP-183C to pre-flood conditions. Completed all site records, cataloged artifacts, archived project materials, and updated databases.



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Environmental Compliance CEs: 97112, 97328 and 97111

Flood Funding	Package – 914	Account Number	Funds Obligated
	Site Work	8826-0210-7YC	\$ 222,342.19
	Project Management	8826-0211-7YC	\$ 64,933.38
	Plan / Design	8826-0212-7YC	\$ 82,906.12
	Management	8826-0214-7YC	\$ 16,462.25
	Total		\$ 386,643.94

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

915 – Prehistoric Site Stabilization

Damage Assessment ID E081 Completed
Damage Assessment Estimate \$62,199
Location Archeological Site CA-MRP-180
Damage Description Flooding eroded approximately 4000 SF of archeological deposits and washed away two mortar features. Previously protected midden deposits now exposed and vulnerable to erosion and looting.
Recommended Action in 1997 Conduct archeological excavation and surface collection in eroded area. Re-record and map new riverbank. Stabilize exposed deposit to prevent further loss.

Damage Assessment ID W014 Completed
Damage Assessment Estimate \$5,309
Location Archeological site CA-MRP-168
Damage Description Site was inundated by high water and archeological surface deposits eroded. Artifacts (stone tools, lithic debris) exposed and displaced.
Recommended Action in 1997 Document post-flood site condition. Collect exposed and at-risk artifacts. Catalog materials and access into the Yosemite Museum collection.

Team / Contractor NPS Staff
Start Date / Completion Date 1998 / 2004

Summary of Work Accomplished Completed site and feature mapping for site CA-MRP-179/180 to document the flood damage, completed an Archeological Resources Protection Act damage assessment investigation on a missing milling stone, updated the site record, conducted interviews and background research to assess the site’s historical component, conducted test excavations, and completed 75% of the final report.

Developed a comprehensive plan for CA-MRP-168 site protection and preservation, prepared a Determination of Eligibility (DOE) for inclusion on the National Register of Historic Places.

Completed all site records, cataloged artifacts, archived project materials, and updated databases.

Environmental Compliance CEs



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Flood Funding	Package – 915	Account Number	Funds Obligated
	Site Work	8826-0220-7YC	\$ 68,694.89
	Project Management	8826-0221-7YC	\$ 1,587.55
	Plan / Design	8826-0222-7YC	\$ 5,691.85
	Total		\$ 75,974.29
Contributing Fund Sources	None		



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

916 – Data Collectio Wawona

Damage Assement ID	W010	Completed
Damage Assement Estimate	\$5,309	
Location	Archeological site CA-MRP-330	
Damage Description	Site inundated by high water and archeological surface deposits eroded. Artifacts (stone tools, lithic debris) were exposed/displaced.	
Recommended Action in 1997	Document post-flood site condition. Collect exposed and at-risk artifacts. Catalog materials and access them into the Yosemite Museum collection.	
Damage Assement ID	W011	Completed
Damage Assement Estimate	\$5,309	
Location	Archeological Site CA-MRP-173	
Damage Description	Site inundated by high water and archeological surface deposits eroded. Artifacts (stone tools, lithic debris) were exposed/displaced.	
Recommended Action in 1997	Document post-flood site condition. Collect exposed and at-risk artifacts. Catalog materials and access them into the Yosemite Museum collection.	
Damage Assement ID	W012	Completed
Damage Assement Estimate	\$5,309	
Location	Archeological Site CA-MRP-373	
Damage Description	Site inundated by high water and archeological surface deposits eroded. Artifacts (stone tools, lithic debris) were exposed/displaced.	
Recommended Action in 1997	Document post-flood site condition. Collect exposed and at-risk artifacts. Catalog materials and access them into the Yosemite Museum collection.	
Damage Assement ID	W013	Completed
Damage Assement Estimate	\$5,309	
Location	Archeological Site CA-MRP-216	
Damage Description	Site inundated by high water and archeological surface deposits eroded. Artifacts (stone tools, lithic debris) were exposed/displaced.	
Recommended Action in 1997	Document post-flood site condition. Collect exposed and at-risk artifacts. Catalog materials and access them into the Yosemite Museum collection.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Assessment ID	W015	Completed
Damage Assessment Estimate	\$5,309	
Location	Archeological site CA-MRP-9	
Damage Description	A stream channel diversion eroded and exposed a previously unknown component of this site. Archeological deposits were eroded and historic objects are now exposed.	
Recommended Action in 1997	Map new deposits and revise existing archeological site record. Collect diagnostic artifacts. Catalog materials and access into Yosemite Museum collection.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1998 / 2003

Summary of Work Accomplished	Developed a cultural resources work plan outlining the tasks needed to complete these projects. Conducted site visits and field work, finalized site records, incorporated findings into Archeological information systems, and archived project materials.
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Environmental Compliance CEs

Flood Funding	Package – 916	Account Number	Funds Obligated
	Site Work	8826-0230-7YC	\$ 13,479.59
	Total		\$ 13,479.59

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

917 – Prehistoric Site Evaluation High Country

Damage Assessment ID H029 Completed
Damage Assessment Estimate \$24,718
Location Highcountry archeological sites and eroded stream channels (currently inaccessible; condition unknown)
Damage Description At least 630 archeological sites are in areas potentially effected by flooding. Damage could range from minor (some erosion, siltation) to major (features and deposits washed away, features undermined, artifacts displaced).
Recommended Action in 1997 Visit and document condition of sites in flood effected areas. Update existing site records, maps, and photographic inventory. File updated records with State of California Information Center. Prepare summary report under Section 106 of NEPA (36CFR 800:12D). Inventory eroded stream channels for newly exposed archeological deposits.

Damage Assessment ID M040 Completed
Damage Assessment Estimate \$32,649
Location Archeological site CA-TUO-22 in Pate Valley
Damage Description The flood waters of Piute Creek caused severe damage to Feature 17, a deposit which is likely associated with a Native American burial. Previously the feature consisted of a continuous deposit of black soil and fire-cracked rock. Following the flooding, only a few clumps of dark soil and fire-cracked rock remain.
Recommended Action in 1997 Consult with Native American groups. Complete a detailed map of the area. Sample a portion of the remaining deposit for macrofloral and C-14 analysis. Re-record the site. Submit the new site record to the Information Center. Prepare a short report of research findings.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2004

Summary of Work Accomplished Assessed over 100 backcountry archeological sites (86 previously unrecorded) for flood damage, completed a final technical report, and completed project archiving, finalizing this project.

At the Pate Valley site (CA-TUO-22), mapped the eroded site area, stabilized one area, collected and processed approximately 150 pounds of soils, removed a Native American human rib bone for reinterment by a local Miwok elder in a more stable



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

site environment, conducted Native American consultation, developed research design, assessed stabilization efforts, cataloged archeological materials, received results of radiocarbon analysis and obsidian studies, and completed the scope of remaining flood recovery work at the Pate Valley site; results will be incorporated into future Native American consultation and management planning for the site.

Environmental Compliance CEs

Flood Funding	Package – 917	Account Number	Funds Obligated
	Site Work	8826-0240-7YC	\$ <u>67,199.29</u>
	Total		\$ 67,199.29

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

918 – Parkwide Socioeconomic Impacts

Damage Assessment ID	P003	Completed
Damage Assessment Estimate	\$66,360	
Location	Socio-Economic Assessment	
Damage Description	Closure of the park has affected the economy of the surrounding areas.	
Recommended Action in 1997	Conduct a socio-economic study to determine the impacts of the park's closure on the economy of the surrounding areas.	
<hr/>		
Team / Contractor	NPS Staff	
Start Date / Completion Date	1997 / 1997	

Summary of Work Accomplished Completed a final report. The report suggested that the combined effect of visitor closures and the offsetting effect of recovery activities resulted in a net loss of personal income of \$15.1 million to \$27.3 million in 1997, and a one-year net loss of 843 to 1,405 jobs.

However, the report indicated that in 1998, aggregate personal income should be almost back to pre-flood levels as the expected loss in visitation until campgrounds and lodging are back on line is almost fully offset by the gain to the economy due to recovery activity.

The report also suggested that in 1999 and 2000 there will be a net positive impact on the regional economy due to recovery activities.

Environmental Compliance None Required

Flood Funding	Package – 918	Account Number	Funds Obligated
	Assessment	8826-0250-7YC	\$ 60,185.46
	Total		\$ 60,185.46

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Emergency Incident Response

919 – Emergency Incident Response

Project	Emergency Incident Response Team	Completed
Location	Parkwide	
Project Description	Initial response using ICS system for emergency expenses.	
Team / Contractor	NPS Staff, FHWA, DSC, and U.S. Forest Service	
Start Date / Completion Date	1997 / 1998	

Summary of Work Accomplished Initial emergency response was managed under the national Incident Command System (ICS) method of staffing, decision making, expenditure tracking, and emergency procurement.

Short-term expenses included: rental of vehicles, portable toilets and heavy equipment; supplying emergency food, water and temporary lodging; restoration of limited electrical, water and sewer services; removal of flood debris and restoration of minimal travel corridors; and provision of law enforcement, fire, emergency medical and search and rescue services.

Overtime, travel, and per diem costs for National Park Service employees as well as a wide cross-section of other state and federal emergency workers hired for the short term were also incurred. The ICS system was shut down on June 11, 1997. As much as \$2,000,000 of costs programmed for this event were covered by FEMA and other state and local emergency organizations.

Environmental Compliance None Required

Flood Funding	Package – 919	Account Number	Funds Obligated
	Incident Response		\$ 9,405,000.68
	Total		\$ 9,405,000.68

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Grounds (Including Campgrounds) Packages

920 – Ecological Restoration of Rivers Campgrounds

Damage Assessment ID	V264	Enjoined / Cancelled
Damage Assessment Estimate	\$4,185,230	
Location	Rivers Campground	
Damage Description	Entire campground (265 sites and 9 restrooms) was completely submerged up to a 5' depth. Picnic tables, bear boxes, fire rings, etc. washed down the river. Heavy siltation and significant debris was deposited throughout the area, including in restrooms. Pavement damage in various locations.	
Recommended Action in 1997	Implement VIP recommendation, which calls for completely removing the campground facilities and restoring the native ponderosa pine forest and riverbank/riparian edge. New campground sites will be located out of the flood plain. Remove asphalt pavement (39,217 SY), dump station, and structures. Restore habitat (217,800 SY).	

Team / Contractor	NPS Staff and U.S. DOJ Staff
Start Date / Completion Date	2001 / 2006

Summary of Work Accomplished Completed first year seed collection of 46 native plant species, totaling 350 pounds of seed. Conducted a hydrology study to determine Merced River flow discharges for specific flood frequencies, and completed hydraulic and flood hazard analysis.

Completed an analysis to identify a rockfall hazard zone unsuitable for campground development. Completed a tree root rot study to identify the extent of disease and avoid construction-caused spread. Initiated a detailed vegetation map, and began research on historic conditions using historic photos and topographic maps.

Placed the package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*.

Began a topographic survey. Conducted wetlands and geotechnical surveys. Conducted an ecological restoration workshop to determine appropriate restoration levels and methods, and began writing an ecological restoration report.



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Postponed all work but the restoration report and removal of the built environment. Completed the ecological restoration report. Initiated property removal procedures required for the removal of restrooms. Completed removal of restrooms and secondary asphalt roads.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Valley Plan, EIS*

Flood Funding	Package – 920	Account Number	Funds Obligated
	Construction	8826-0300-7YG	\$ 92,936.46
	Construction Management	8826-0301-7YG	\$ 9,540.06
	Plan / Design	8826-0302-7YG	\$ 305,088.42
	MRP–Appeal/Revision	8826-A307-7YG	\$ 1,843,682.38
	Total		\$ 2,251,247.32

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

921 – Reconstruct North Pines and Walk-In Campgrounds

Damage Assessment ID V267 Enjoined / Cancelled
Damage Assessment Estimate \$5,809,363
Location North Pines and Walk-In Campground
Damage Description Entire campground flooded, depositing sand and other debris. Three old trailer pads have been undermined. Campground furnishings were washed downstream.

Recommended Action in 1997 Implement VIP recommendation to remove existing campground facilities and stables, and restore a portion of the existing campground to the native ponderosa pine forest and river/creek bank/riparian edge. The rest of the existing campground will be reconstructed into new campground loops, and the campground will be expanded to the east. Remove the following: asphalt pavement (11,658 SY); Tenaya Creek pedestrian bridge; and the stables and related structures. Restore habitat (77,440 SY). Construct the following: 80 new campsites; a new walk-in camp and associated parking; bridge at walk-in camp; four new comfort stations; utilities to new comfort stations; and campground utilities. Rehabilitate two existing comfort stations. Construct an interpretive amphitheater, administrative/check-in structures, visitor information center, and dump station (common to Lower Pines, Upper Pines and North Pines Campgrounds).

Project Campground Study Completed
Location Parkwide
Project Description Study the potential for expanding additional campsites.

Team / Contractor NPS Staff, URS, and Architectural Resources Group
Start Date / Completion Date 2001 / 2007

Summary of Work Accomplished Completed a topographic survey, a hydrology study, and a rockfall hazard zone analysis for campground development. Developed plans for and constructed four prototype universal campsites in Lower Pines campground.

Package placed on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*.

Reported to Congress results of campground study on development or expansion of campsites outside Yosemite Valley. Began site planning for the eastern portion of



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Yosemite Valley, including road and utility upgrades for the relocation of North Pines and Tenaya Creek campgrounds.

Postponed work on the North Pines campground removal until completion of higher-priority *Yosemite Valley Plan* implementation projects. Submitted a feasibility report to Congress regarding reestablishing Lower Pines and Upper and Lower Rivers as campgrounds. Based on all of the available information, including the above report, it was determined not to reconstruct Lower Pines, Upper River and Lower River campgrounds.

Completed construction documents for campground relocation to include 59 walk-in sites at Upper Pines campground. Delayed construction due to a court injunction requiring revision of the *Merced River Plan*. Completed revision of the *Merced River Plan*. Resolved court ordered injunction. Initiated advertising announcement for bid. A subsequent court ruling required a cancellation of the bid process.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Valley Plan, EIS and Curry Village and East Yosemite Valley Campground Improvement Project, EA*

Flood Funding	Package – 921	Account Number	Funds Obligated
	Construction	8826-0310-7YG	\$ 7,059.80
	Plan / Design	8826-0312-7YG	\$ 1,252,002.58
	Compliance	8826-0313-7YG	\$ 14,343.00
	Management	8826-0314-7YG	\$ 335,726.99
	Campground Study	8826-0318-7YG	\$ 357,957.65
	Total		\$ 1,967,090.02

Contributing Fund Sources None



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922 – Reconstruct Pines Campgrounds

Damage Assessment ID V265 Enjoined / Cancelled
Damage Assessment Estimate \$4,044,139
Location Lower Pines Campground
Damage Description River submerged sixty percent of campground and four restrooms up to a depth of 3'. Erosion caused major pavement damage.
Recommended Action in 1997 Implement VIP recommendation to remove existing campground facilities near the river, restoring that portion to native ponderosa pine forest and river/creek bank/riparian edge. The remaining portion of the existing campground will be reconstructed into new campground loops. Remove asphalt pavement (11,658 SY), structures, appurtenances. Restore habitat (82,280 SY). Construct 110 new campsites and two comfort stations with utilities. Rehabilitate four existing comfort stations. Construct new loop and access roads (5500 LF). Construct an interpretive amphitheater, administrative/check-in structures, visitor information center, and dump station (common to Lower Pines, Upper Pines and North Pines Campgrounds).

Damage Assessment ID V266 Enjoined / Cancelled
Damage Assessment Estimate \$3,636,565
Location Upper Pines Campground and Group Camp
Damage Description High water damaged ten sites on the far east end of the campground. Pavement and curbing is damaged near dump station.
Recommended Action in 1997 Implement VIP recommendation to expand campground facilities, including a new group campsite area. Remove existing dump station. Improve road circulation. Construct the following: 11 group campsites south of Happy Isles Road; 33 new campsites between Upper Pines and the Merced River; campground utilities; and four new comfort stations with utility connections. Construct a visitor interpretive amphitheater; administrative/check-in structures; and visitor information center (common to Upper Pines, Lower Pines, and North Pines Campgrounds).

Team / Contractor NPS Staff, URS, Architectural Resources Group and EDAW Inc.
Start Date / Completion Date 2001 / 2007



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Summary of Work Accomplished

Completed a topographic survey, a hydrology study, a flood hazard analysis, a rockfall hazard zone analysis, a wetland identification, and a tree root rot study to identify areas to be avoided in campgrounds. Developed plans for and constructed four prototype universal campsites in Lower Pines campground. Placed this package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*; received a federal judge's ruling upholding the validity of the *Merced River Plan*.

Completed planning documents for the eastern portion of Yosemite Valley, including road and utility upgrades for the relocation of Upper Pines campground and Group Camp, and selected a preliminary concept. Postponed work on the Lower Pines campground removal. Completed construction documents for establishment of 30 recreational vehicle (RV) campsites at Upper Pines campground. Delayed construction due to a court injunction requiring revision of the *Merced River Plan*. Completed revision of the *Merced River Plan*. Resolved court ordered injunction. Initiated advertising announcement for bid. A subsequent court ruling required a cancellation of the bid process.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance *Yosemite Valley Plan, EIS and Curry Village and East Yosemite Valley Campground Improvement Project, EA*

Flood Funding	Package – 922	Account Number	Funds Obligated
	Construction	8826-0320-7YG	\$ 127,320.13
	Construction Management	8826-0321-7YG	\$ 1,528.92
	Plan / Design	8826-0322-7YG	\$ 1,305,606.69
	Compliance	8826-0323-7YG	\$ 173,463.98
	Management	8826-0324-7YG	\$ 1,023,200.43
	YVP-Campgrounds	8826-0326-7YG	\$ 1,485,838.49
	Total		\$ 4,116,958.64

Contributing Fund Sources None



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923 – Repair Picnic Areas

Damage Assement ID	E016	Completed
Damage Assement Estimate	\$19,673	
Location	Cascades Picnic Area	
Damage Description	High water washed away picnic tables and pedestal grills, and caused soil erosion.	
Recommended Action in 1997	Restore picnic area to original condition. Purchase and install eight picnic tables and eight pedestal grills. Fill and regrade eroded areas.	
Damage Assement ID	E037	Completed
Damage Assement Estimate	\$24,244	
Location	Cascades Picnic Area Parking	
Damage Description	Flooding eroded fill behind walk and at east end of parking lot. Water washed away 300 LF of aggregate trail, tipped over picnic area sign, and deposited debris in the picnic area.	
Recommended Action in 1997	Restore picnic area parking. Import 210 CY borrow to correct eroded fill area. Reset picnic area sign. Remove deposited debris. Replace 300 LF (200 SY) of aggregate trail. Grade adjacent ground as necessary. Regrade eroded areas. Riprap east end of walk (30 CY).	
Damage Assement ID	V023	Completed
Damage Assement Estimate	\$336,035	
Location	Sentinel and Yellowpine Picnic Areas	
Damage Description	Floods washed away vault toilet and picnic table, and left five toilets dirty. Part of access roads are covered with sand or are destroyed (2300' at Sentinel, 1900' at Yellowpine). Garbage cans scattered.	
Recommended Action in 1997	Restore picnic area. Remove, crush and re-lay existing asphalt on roadways as a base (4200 LF). Remove sand and debris from roadways, haul, and stockpile (660 CY). Regrade adjacent area as necessary. Reconstruct damaged roadway (5600 SY aggregate base 4" thick; 5600 SY asphalt paving). Clean and restore five pit toilets. Reset garbage cans. Purchase one vault toilet and five picnic tables.	
Damage Assement ID	V106	Completed
Damage Assement Estimate	\$2,385	
Location	Swinging Bridge	
Damage Description	River deposited debris at Swinging Bridge and adjacent picnic area.	
Recommended Action in 1997	Restore to previous condition. Remove debris around bridge and in picnic area.	



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Damage Assessment ID	V140	Completed
Damage Assessment Estimate	\$20,866	
Location	Cascades Creek Retaining Wall	
Damage Description	High water pushed wall one foot or more into stream. About 100 LF of wall affected.	
Recommended Action in 1997	Pump concrete grout into spaces between rocks to stabilize the wall. Requires 20 CY of grout, 20 CY of fill.	

Damage Assessment ID	W004	Completed
Damage Assessment Estimate	\$5,962	
Location	Wawona Campground	
Damage Description	Erosion of curbing and pavement due to high water.	
Recommended Action in 1997	Remove asphalt curbing and associated pavement, replace with 40 LF of asphalt pavement and curbing. Grade adjacent grounds as necessary.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1998 / 2001

Summary of Work Accomplished Purchased and installed picnic tables and grills at Wawona. Placed the Yellowpine/Sentinel area project on hold until completion of the *Yosemite Valley Plan*. Completed bank terracing and began restoring plants at the Swinging Bridge picnic area. Reconstructed the picnic area parking and approach path as part of the reconstruction of the El Portal Road.

Completed the Cascades Creek picnic area restoration. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Determined that roadway repairs at Yellowpine/Sentinel picnic area are not required due to *Yosemite Valley Plan* discontinuation of private vehicle use.

Environmental Compliance *Yosemite Valley Plan, EIS and CEs*

Flood Funding	Package – 923	Account Number	Funds Obligated
	Construction	8826-0330-7YG	\$ 5,542.39
	Plan / Design	8826-0332-7YG	\$ 2,000.00
		Total	\$ 7,542.39

Contributing Fund Sources None



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924 – Repair Fence

Damage Assessment ID	E045	Completed
Damage Assessment Estimate	\$9,936	
Location	Fence Damage at Percolation Ponds	
Damage Description	220 LF of fence damaged.	
Recommended Action in 1997	Repair fence. Purchase and install 22 posts. Replace 75 LF chain link fence with new top rail. Reassemble salvageable fence.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 1997

Summary of Work Accomplished The fence repair and replacement completed in December 1997.

Environmental Compliance None Required

Flood Funding	Package – 924	Account Number	Funds Obligated
	Construction	8826-0340-7YG	\$ 3,030.00
	Total		\$ 3,030.00

Contributing Fund Sources None



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925 – Replace Interpretive Signs & Benches

Damage Assessment ID	P006	Completed
Damage Assessment Estimate	\$105,512	
Location	Interpretive Signs and Exhibits	
Damage Description	Approximately 70 interpretive signs and exhibits were damaged or destroyed by flood waters.	
Recommended Action in 1997	Repair or replace 70 signs and exhibits.	
Damage Assessment ID	V131	Completed
Damage Assessment Estimate	\$4,380	
Location	Happy Isles Signage	
Damage Description	Directional and interpretive signs were damaged and/or destroyed.	
Recommended Action in 1997	Replace one shuttle bus sign (redwood with silk-screen image), and two rewood directional signs.	
Damage Assessment ID	V170	Completed
Damage Assessment Estimate	\$17,885	
Location	Happy Isles Benches	
Damage Description	Round log benches are missing.	
Recommended Action in 1997	Replace 12 benches.	
Damage Assessment ID	V213	Completed
Damage Assessment Estimate	\$104,328	
Location	Interpretive Signs of Flood-Related Construction	
Damage Description	Damaged facilities will be under construction during each of the proposed phases (i.e. Phase III or IV). Information signs on construction sites will be necessary to answer visitors' questions.	
Recommended Action in 1997	Create 150 interpretive signs.	
Damage Assessment ID	V247	Completed
Damage Assessment Estimate	\$95,981	
Location	Interpretation and Visitor Management Signage	
Damage Description	Visitors will be asking a multitude of questions about the flood damage. A systematic and accurate way to inform visitors must be developed.	
Recommended Action in 1997	Design and fabricate five interpretive signs and a video about the flood. Produce interpretive packets to be displayed in area lodging facilities and other public spaces. Erect a monument to record and interpret high water marks.	



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Team / Contractor NPS Staff and Leslie Stone
Start Date / Completion Date 1997 / 2005

Summary of Work Accomplished Created and installed ten temporary wayside exhibits that explained the flood. Placed seven markers throughout the Valley depicting the actual level of floodwaters. Produced one video that explained the flood and associated damage, and another regarding El Portal Road reconstruction. Inventoried damaged interpretive signs throughout the park.

Developed a public information campaign for the El Portal Road, Yosemite Lodge and other flood recovery projects, including the production of fact sheets and bulletins. Continued video documentation for flood recovery projects. Installed replacement benches and bike racks at Happy Isles. Identified locations and themes for replacement exhibits.

Awarded a contract for design, fabrication and installation of wayside exhibits. Completed the text for wayside exhibit panels and finalized design. Completed fabrication and installation of wayside exhibits.

Environmental Compliance CEs: 97227, 97223, 97225, 97316, and 97309

Flood Funding	Package – 925	Account Number	Funds Obligated
	Construction	8826-0350-7YG	\$ 202,799.00
	Plan / Design / Compliance	8826-0352-7YG	\$ 16,577.83
	Total		\$ 219,376.83

Contributing Fund Sources None



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926 – Repair Grounds at Concession Facilities

Damage Assement ID V040 Completed
Damage Assement Estimate \$29,808
Location Curry Village
Damage Description Creek through Curry Village overflowed its banks, scoured grounds and road, and deposited debris between cabins: 3, 11, 19, 27, 28, 63, 65, 72 and 73. Scouring at tent cabin 66.
Recommended Action in 1997 Restore Curry Village cabin grounds area. Clean and repair three culverts. Repair two footbridges. Remove silt around cabin foundations, regrade as necessary (117 CY). Grade and re-establish a drainage along creek (667 SY). Import borrow to Cabin 66, regrade as necessary (150 CY). Regrade gravel service road near Cabin 72.

Damage Assement ID V076 Completed
Damage Assement Estimate \$5,962
Location Site Damage at Clinic Grounds
Damage Description Indian Creek overflowed, eroding the stairs at the Nurse's Dorm, exposing sewer line in one place, and eroding the AC pavement around the vault in front of the dorm.
Recommended Action in 1997 Provide positive drainage behind Nurse's Dorm and to east of clinic. Fill eroded areas. Provide new swale.

Team / Contractor NPS Staff
Start Date / Completion Date 1998 / 1999

Summary of Work Accomplished Completed drainage improvements at the clinic through Youth Conservation Corps (YCC) crews. Completed the work in the Curry Village area through YCC crews.

Environmental Compliance CEs: 97220 and 97221

Flood Funding	Package – 926	Account Number	Funds Obligated
	Construction	8826-0360-7YG	\$ 13,975.18
	Plan / Design / Compliance	8826-0362-7YG	\$ 2,775.23
	Total		\$ 16,750.41

Contributing Fund Sources None



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Natural Resources Packages

928 – Remove Hazardous Trees

Damage Assessment ID E078 Completed
Damage Assessment Estimate \$2,981
Location Tree Damage in El Portal
Damage Description High water and winds have caused tree damage at two locations in El Portal and one area in Cascades. These trees threaten roads, picnic areas and utilities.
Recommended Action in 1997 Remove hazardous trees. Chip for mulch, log for firewood and sell merchantable logs.

Damage Assessment ID W036 Completed
Damage Assessment Estimate \$71,539
Location Tree Damage in Wawona Area
Damage Description Flood, wind and snow caused tree failures, blocking major roads. Hazardous trees still stand in an archeological site.
Recommended Action in 1997 Assess downed and hazardous trees. Burn, slash or haul unmerchantable logs. Sell merchantable logs. Manage removal contracts.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 1998

Summary of Work Accomplished Surveyed for tree hazards and completed the hazard mitigation.

Environmental Compliance CEs: 97037 and 97233

Flood Funding	Package – 928	Account Number	Funds Obligated
	Construction	8826-0500-7YN	\$ 52,425.37
	Construction Management	8826-0501-7YN	\$ 5,902.40
	Total		\$ 58,327.77

Contributing Fund Sources None



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929 – Repair Trailer Park Levee El Portal

Damage Assessment ID	E007	Completed
Damage Assessment Estimate	\$273,239	
Location	Trailer Park Levee	
Damage Description	Flood water removed portion of armoring rock from toe of levee.	
Recommended Action in 1997	Replace armoring rock to toe of levee. Trim existing tree branches to allow work, and remove flood debris. Add a flapper to existing culvert outlet to prevent river water from traveling up the culvert, saturating the levee (1677 CY of riprap).	

Team / Contractor	NPS Staff
Start Date / Completion Date	1999 / 2005

Summary of Work Accomplished Completed temporary repair of the levee during emergency operations immediately following the flood. Completed initial hydrologic inspection (performed by the NPS Water Resources Division at no cost to the park). Completed threatened and endangered plant surveys to determine if any mitigation measures will be necessary during construction; no threatened and endangered species were found.

Delayed further work while responding to legal claims against the *Merced River Plan*; received a federal judge's ruling upholding the validity of the *Merced River Plan*. No further work will be accomplished through this funding source.

Environmental Compliance CE: 97283

Flood Funding	Package – 929	Account Number	Funds Obligated
	Construction	8826-0510-7YN	\$ -0-
	Plan / Design	8826-0512-7YN	\$ 615.11
	Total		\$ 615.11

Contributing Fund Sources None



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930 – Remove Hazardous Debris from Merced River

Damage Assessment ID E068 Completed
Damage Assessment Estimate \$150,130
Location Merced River Clean-Up (El Portal)
Damage Description Debris, including one residence, has been deposited on either side of the two-mile length of river from Parkline to Foresta Bridge.
Recommended Action in 1997 Clean approximately 73 acres of debris and cap utilities at the home site.

Damage Assessment ID V081 Completed
Damage Assessment Estimate \$403,198
Location River Clean-Up (Yosemite Valley)
Damage Description Debris was deposited along the Merced River in Yosemite Valley. This includes picnic tables, fencing, barricades, signs, asphalt, and structures.
Recommended Action in 1997 Remove debris from 495 acres of riverbank, and return site furnishings to campsites and picnic areas.

Team / Contractor NPS Staff, TE Services and U.S. DOJ Staff
Start Date / Completion Date 1997 / 2008

Summary of Work Accomplished Removed hundreds of pounds of flood-deposited debris from 500 acres of Merced River floodplain in Yosemite Valley. Completed debris removal from 75 acres in El Portal, including broken storm drain and metal pipes.

Began environmental compliance for the removal of the Cascade Dam; placed this portion of the package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*.

Removed the Cascades Diversion Dam and attendant structures. Completed the removal of the sediment behind the dam, the rock filled timber cribbing, abutments, intake structures, and embankment protection. Completed bank stabilization and site restoration.

Environmental Compliance *Yosemite Valley Plan, EIS and Cascades Diversion Dam Removal Project, EA*; CEs: 97232 and 97234



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Flood Funding	Package – 930	Account Number	Funds Obligated
	Construction	8826-0520-7YN	\$ 56,151.23
	Construction Management	8826-0521-7YN	\$ 32,550.82
	Plan / Design	8826-0522-7YN	\$ 104,760.49
	MRP–Cascades Dam	8826-0527-7YN	\$ 123,944.06
	Total		\$ 317,406.60

Contributing Fund Sources Line Item – Dam Safety \$2,968,496 – PMIS 76589



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931 – Stabilize River Banks

Damage Assessment ID E063 Enjoined / Cancelled
Damage Assessment Estimate \$160,764
Location Merced River Bank
Damage Description Flood waters caused significant stream bank destabilization in five areas.
Recommended Action in 1997 Revegetate and stabilize eroded river banks with 50,000 SF brush-layering bio-engineering techniques. Install 1200 LF of barrier fence to protect site.

Damage Assessment ID M039 Cancelled
Damage Assessment Estimate \$182,156
Location Bank Stabilization Along Crane Creek in Foresta
Damage Description High water eroded the bank of Crane Creek in numerous locations throughout Foresta.
Recommended Action in 1997 Stabilize the bank using bio-engineering techniques (requires 75,000 SF of brush layering). This will help protect buildings, bridges and cultural resource sites.

Team / Contractor NPS Staff
Start Date / Completion Date 1998 / 2005

Summary of Work Accomplished Collected first year native plant seeds for plant material production. Delayed bank stabilization work at the Crane Creek bridge site in Foresta pending bridge reconstruction. Delayed further work while responding to legal claims against the *Merced River Plan*. Cancelled work on the riverbank stabilization.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance CE 97297 and *Yosemite Valley Plan, EIS*

Flood Funding	Package – 931	Account Number	Funds Obligated
	Construction	8826-0530-7YN	\$ 6,851.26
	Total		\$ 6,851.26

Contributing Fund Sources None



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932 – Restore Streambank Vegetation

Damage Assessment ID	V029	Completed
Damage Assessment Estimate	\$10,532	
Location	Ahwahnee Hotel \ Royal Arches Creek	
Damage Description	Royal Arches Creek overflowed its banks in the vicinity of the Ahwahnee Hotel.	
Recommended Action in 1997	Stabilize bank (6000 SF of bio-engineering).	
Damage Assessment ID	V069	Completed
Damage Assessment Estimate	\$1,987	
Location	Yosemite Village Art Activity Center and Bank	
Damage Description	Stream overflowed channel, depositing silt and debris around the Art Activity Center and bank.	
Recommended Action in 1997	Repair stream banks and remove 500 SF of silt and debris.	
Damage Assessment ID	V082	Completed
Damage Assessment Estimate	\$45,109	
Location	Happy Isles River and Terrace Restoration Project Site	
Damage Description	Flooding damaged the area from the gauging station bridge to the shuttle bus stop. Damage assessments for the island work cannot be completed due to bridge washouts. Streambank erosion has occurred downstream from the gauging station bridge.	
Recommended Action in 1997	Revegetate terrace areas. Replace split rail fence and five signs. Remove debris. Requires revegetation and 170 LF of split rail fence.	
Damage Assessment ID	V084	Completed
Damage Assessment Estimate	\$11,128	
Location	Stoneman Meadow Restoration Project Site (Area Adjacent to Lower Pines Campground)	
Damage Description	The Merced River overflowed the terrace, damaging a post and a cable restoration-project fence.	
Recommended Action in 1997	Clean debris from cable. Replace or repair 340 LF of barrier fence.	
Damage Assessment ID	V086	Completed
Damage Assessment Estimate	\$42,725	
Location	Lower River Campground River Restoration Project #2, Near Housekeeping Pedestrian Bridge	
Damage Description	Revegetation areas and barrier fence were damaged or destroyed.	
Recommended Action in 1997	Revegetate river terrace. Replace 430 LF of fencing and ten signs.	



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Damage Assessment ID	V087	Completed
Damage Assessment Estimate	\$83,065	
Location	Housekeeping Camp River Restoration Project	
Damage Description	The flood damaged a terrace restoration project, including barrier fencing and signs.	
Recommended Action in 1997	The flood damaged a terrace restoration project, including barrier fencing and signs.	
Damage Assessment ID	V088	Completed
Damage Assessment Estimate	\$18,878	
Location	Sentinel Bridge Restoration Project	
Damage Description	Flooding damaged fencing, deposited debris, and washed away signage.	
Recommended Action in 1997	Replace six signs. Remove debris. Repair 75 LF of fence.	
Damage Assessment ID	V089	Completed
Damage Assessment Estimate	\$66,571	
Location	Sentinel Meadow Restoration Project (Includes Fencing and Boardwalk)	
Damage Description	Flooding eroded the boardwalk on the northeast corner, and deposited debris. Also washed away fencing, vegetation and interpretive signs.	
Recommended Action in 1997	Revegetate 108,900 SF of meadow. Repair 1433 LF of fence (posts, cable and split rail). Replace 14 signs. Remove debris.	
Damage Assessment ID	V090	Completed
Damage Assessment Estimate	\$14,705	
Location	School Yard Oak Woodland Restoration Project, Near Yosemite Creek	
Damage Description	Restoration project was damaged by flood waters.	
Recommended Action in 1997	Replace 200 LF of barrier fence, clean up debris, and replant 12 oak trees.	
Damage Assessment ID	V091	Completed
Damage Assessment Estimate	\$37,558	
Location	Lower Yosemite Falls Parking Lot and the Bike Path	
Damage Description	Yosemite creek flood waters damaged barrier fence at sites on both sides of the creek.	
Recommended Action in 1997	Repair or replace 1,150 SF of barrier fence. Clean up debris. Replace ten signs. Revegetate 10,000 SF.	



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Damage Assessment ID	V092	Completed
Damage Assessment Estimate	\$33,981	
Location	Swinging Bridge to Yosemite Lodge River Restoration Project, Along Bike Path	
Damage Description	Flood water uprooted and damaged vegetation, barrier fence and interpretive signs. Equipment and materials stored in the area have been damaged or relocated by flood water.	
Recommended Action in 1997	Revegetate river terrace. Replace 425 LF barrier fence and 15 signs. Remove flooded equipment and materials to a new storage site.	
Damage Assessment ID	V093	Completed
Damage Assessment Estimate	\$16,444	
Location	Sentinel Beach Picnic Area River Restoration Site	
Damage Description	Flood waters washed away barrier fence and signage. Also relocated a water tank trailer.	
Recommended Action in 1997	Replace 350 LF of barrier fence and eight signs. Recover water tank trailer. Clean up debris.	
Damage Assessment ID	V094	Enjoined / Cancelled
Damage Assessment Estimate	\$337,823	
Location	El Capitan River Restoration Project Site	
Damage Description	Flooding heavily damaged this area, eroding over 1000 LF of riverbank and destroying 835 LF of fencing.	
Recommended Action in 1997	Revegetate and regrade riverbank and old dumpsite, using bio-engineering techniques. Replace barrier fence, and 27 signs.	
Damage Assessment ID	V096	Completed
Damage Assessment Estimate	\$65,975	
Location	Devil's Elbow River Restoration Project	
Damage Description	Flood waters damaged barrier fences and signs. The streambank sustained no erosion--a tribute to the willow-layering method used to restore this area prior to the flood.	
Recommended Action in 1997	Repair or reconstruct barrier fence. Replace 16 signs. Remove debris.	
Damage Assessment ID	V097	Completed
Damage Assessment Estimate	\$10,333	
Location	Bridalveil Oak Woodland Restoration Project Site	
Damage Description	Overflow from Bridalveil Creek caused damage to fencing and project signs.	
Recommended Action in 1997	Repair or replace barrier fence. Replace five signs. Remove debris.	



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Damage Assessment ID V177 Completed
Damage Assessment Estimate \$11,257
Location Ahwahnee Meadow Fencing on South Side, Next to Bike Path
Damage Description Barrier fence was damaged, signs were lost, and debris was deposited.
Recommended Action in 1997 Repair and replace barrier fence, and three signs. Remove debris.

Damage Assessment ID V178 Completed
Damage Assessment Estimate \$51,667
Location Mirror Lake Restoration Project
Damage Description Tenaya Creek flooded this area, destroying vegetation and barrier fence.
Recommended Action in 1997 Revegetate and replace barrier fence. Re-survey established data points to determine stability of the rubble damage. Re-survey creek profiles and cross sections.

Team / Contractor NPS Staff and Bitterroot Restoration, Inc.
Start Date / Completion Date 1998 / 2005

Summary of Work Accomplished

Replaced and/or rebuilt over 3.5 miles of restoration fencing. Replaced 170 restoration signs.

Completed first year seed collection of 46 native plant species, totaling 350 pounds of seed. Took delivery of over 5,000 native plant seedlings for revegetation. Completed fish population and habitat monitoring to provide an analysis of the flood's effects on fishery habitat and populations at restoration project sites, and guidance for implementation of this package.

Performed a study of tree root rot to identify the extent of disease and avoid construction-caused spread. Planted seedlings and completed revegetation at all but one project site.

Delayed further work while responding to legal claims against the *Merced River Plan*; received a federal judge's ruling upholding the validity of the *Merced River Plan*. Cancelled work on streambank revegetation.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.



Project Completion Reports

Yosemite National Park

National Park Service
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Environmental Compliance CEs and *Yosemite Valley Plan, EIS*

Flood Funding	Package – 932	Account Number	Funds Obligated
	Construction	8826-0540-7YN	\$ 116,463.67
	Construction Management	8826-0541-7YN	\$ 6,261.03
	Plan / Design	8826-0542-7YN	\$ 84,258.87
	Compliance	8826-0543-7YN	\$ 95.07
	Management	8826-0544-7YN	\$ 50,207.99
	YVP - Vegetation	8826-0546-7YN	\$ 48,843.68
	Total		\$ 306,130.31

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Equipment / Property Packages

933 – Replace Property

Damage Assessment ID	E041	Completed
Damage Assessment Estimate	\$1,477	
Location	Portable Gas Powered Pumps	
Damage Description	Flood waters washed away two 60 GMP portable gas powered pumps stored at Arch Rock.	
Recommended Action in 1997	Replace two portable pumps.	
Damage Assessment Estimate	\$14,772	Completed
Location	Damage to Sludge-Hauling Trailer	
Damage Description	Semi-Trailer Tarp and Steel Frame were Destroyed.	
Recommended Action in 1997	Replace 8' x 40' tarp and steel frame.	
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Team / Contractor	NPS Staff	
Start Date / Completion Date	1997 / 1997	

Summary of Work Accomplished Purchased and put gasoline-powered portable pumps into service. Repaired the sludge-hauling trailer in lieu of purchasing a replacement cover, saving approximately \$15,000.

Environmental Compliance None Required

Flood Funding	Package – 933	Account Number	Funds Obligated
	Site Work	8826-0600-7YP	\$ 607.01
	Total		\$ 607.01

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

934 – Replace Resource Management Supplies

Damage Assessment ID	V272	Completed
Damage Assessment Estimate	\$558,379	
Location	Resource Management, Restoration Project and Backcountry Utilities Equipment	
Damage Description	Equipment and supplies owned by Backcountry Utilities were damaged when the office and warehouse flooded near Camp 6. Equipment and supplies owned by the Restoration Project were damaged when the Residence 1 garage, shed and storage area flooded. Equipment and supplies owned by the Wildlife Management Team were damaged when the Residence 1 garage flooded.	
Recommended Action in 1997	Replace or repair all equipment, supplies, tools and vehicles that were damaged by the flood. Inventory sheets are on file at the park.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 2006

Summary of Work Accomplished Replaced equipment and supplies that were damaged or destroyed by the flood and critical for immediate operational use in 1997. Continued procurement of supplies and equipment.

Environmental Compliance CE 97306

Flood Funding	Package – 934	Account Number	Funds Obligated
	Construction	8826-0610-7YP	\$ 509,484.99
	Management	8826-0614-7YP	\$ 11,129.93
	Total		\$ 520,614.92

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

935 – Replace Damaged Well Equipment

Damage Assessment ID	V212	Completed
Damage Assessment Estimate	\$17,135	
Location	All Water Wells in Yosemite Valley	
Damage Description	Wells # 1, #2 and #4 had chlorine gas disinfection systems. All existing chlorine dispensing equipment was destroyed or damaged.	
Recommended Action in 1997	Repair or replace three chlorine bottle scales; three v-notch chlorinators; six Self Contained Breathing Apparatus; and three chlorine regulators.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 1997

Summary of Work Accomplished	Replaced all components of the treatment system. Completely changed out gas chlorination equipment to eliminate the potential for a toxic release of chlorine gas should an accident occur. Changed the system to liquid hypochlorite, which is safe to handle and does not require the use of self-contained breathing apparatus when performing maintenance on the system.
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Environmental Compliance	None Required
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Flood Funding	Package – 935	Account Number	Funds Obligated
	Construction	8826-0620-7YP	\$ 24,215.53
	Total		\$ 24,215.53

Contributing Fund Sources	None
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Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Roads Packages

936 – Reconstruction of El Portal Road

Damage Assessment ID	E079	Completed
Damage Assessment Estimate	\$27,013,703	
Location	El Portal Road from Parkline to Pohono Bridge	
Damage Description	Flooding created unstable and unsafe areas from Parkline to Pohono Bridge.	
Recommended Action in 1997	Correct unstable and unsafe areas from Parkline to Pohono Bridge to a sustainable standard (wall height, hazardous curve).	
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Team / Contractor	NPS Staff, FHWA Staff, Kiewit Pacific and U.S. DOJ Staff	
Start Date / Completion Date	1998 / 2000	

Summary of Work Accomplished Completed an Environmental Assessment. Awarded a design/build contract for 7.5 miles of the two-lane El Portal Road from the western park boundary at El Portal to Pohono Bridge in Yosemite Valley. The contract included:

- Slightly realign and widened the roadway
- Stabilized the roadbed
- Improved road drainage
- Replaced the guardwall and pavement
- Repaired or replaced the sewerline beneath the road

Received a legal challenge that generated a court-mandated deadline for completion of the *Merced River Plan* by July of 2000; issued a Record of Decision on the plan in August of 2000. Successfully resolved a legal challenge which attempted to delay road reconstruction.

Rejected the design for a 1.1-mile portion of the road because it did not comply with project environmental guidelines, and deleted this portion of road (“Segment D” which includes the Highway 140/120 intersection) from the package. The sewer rehab through this segment was also eliminated from the project.

Completed all road reconstruction for the 6.4 miles in September of 2000. Rehabilitated 6.4-miles of the 16-mile main sewer trunk line. The sewer rehabilitation included: cleaning the line; installing a 11" HDPE slipliner into the deteriorated 1973 12" ductile iron pipe; installing air relief vents, inline isolation valves, lateral connections, and new manholes. The work coincided with the reconstruction of the



Project Completion Reports

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flood damaged El Portal Road to allow for efficiency of simultaneous construction within the same corridor.

Environmental Compliance *El Portal Road Improvement, EA*

Flood Funding	Package – 936	Account Number	Funds Obligated
	Construction	8826-0700-7YR	\$ 24,186,611.06
	Construction Management	8826-0701-7YR	\$ 1,980,294.38
	Plan / Design	8826-0702-7YR	\$ 2,044,058.83
	Compliance	8826-0703-7YR	\$ 472,021.44
	Management	8826-0704-7YR	\$ 856,304.63
	MRP–EP Road	8826-0707-7YR	\$ 1,029,654.01
	Total		\$ 30,568,944.35

Contributing Fund Sources Emergency Relief for Federally Owned Roads \$4,521,440
Recreation Fee \$2,221,944 – PMIS 49163



Project Completion Reports

Yosemite National Park

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937 – Reconstruct El Portal Sand Pit

Damage Assessment ID	E080	Cancelled
Damage Assessment Estimate	\$414,926	
Location	Road Sand Pit	
Damage Description	Flooding washed out the intake structure and diversion channel at the historical sand pit. The pit filled with silt and river rock. The access ramp washed out. The outlet structure was damaged. Road sand, aggregate base material and sheet rock was lost. Screening equipment may have been damaged.	
Recommended Action in 1997	Reconstruct intake structure and re-establish a diversion channel. Re-excavate sand pit and use material to repair ramp. Reconstruct access ramp. Replace road sand and lost processed material. Reshape and grade river bank. Repair screening equipment.	

Team / Contractor	NPS Staff and Architectural Resources Group
Start Date / Completion Date	2000 / 2005

Summary of Work Accomplished Procured and received 5,600 tons of road sand to replace what was lost in the flood. Prepared a design service task order for the sand storage bin roof structure. Reevaluated and rejected the idea of reconstructing the sand pit adjacent to the Merced River; decided to improve the sand storage bin at the El Portal Maintenance area instead. Began design work for the improved sand storage structure.

Delayed further work while responding to legal claims against the *Merced River Plan*. Cancelled work on the sand storage roof.

Environmental Compliance CE: 98542

Flood Funding	Package – 937	Account Number	Funds Obligated
	Construction	8826-0710-7YR	\$ 120,029.34
	Plan / Design	8826-0712-7YR	\$ 26,764.95
	Total		\$ 146,794.29

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
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938 – Replace Signs Parkwide

Damage Assessment ID	P005	Completed
Damage Assessment Estimate	\$93,036	
Location	Parkwide	
Damage Description	Regulatory and directional signs were damaged or destroyed by flood.	
Recommended Action in 1997	Replace / repair damaged signs listed on inventory sheets.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 2003

Summary of Work Accomplished Completed a parkwide inventory of flood-damaged front country directional/informational signs. Fabricated and installed emergency replacement signs in the Happy Isles area, the John Muir and Mist Trail corridors, and the Yosemite Valley campgrounds. Fabricated and installed seven replacement “chain control” signs for the Big Oak Flat, Wawona and Badger Pass roads. Installed the “danger” warning signs at Vernal and Nevada falls. Fabricated and installed El Portal Road construction information signs.

Inventoried all damaged campground signs along the Tioga Road. Completed inventory and repair or replacement of damaged and missing backcountry signs for 12 miles of trail.

Environmental Compliance CE: 97226

Flood Funding	Package – 938	Account Number	Funds Obligated
	Site Work	8826-0720-7YR	\$ <u>71,727.00</u>
	Total		\$ 71,727.00

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

939 – Replace Bridge Riprap

Damage Assessment ID V066 Enjoined / Cancelled
Damage Assessment Estimate \$75,638
Location Tenaya Road
Damage Description Streambank erosion along left bank, upstream of bridge abutment, requires rock/willow protection due to altered angle of stream flow.
Recommended Action in 1997 Mechanically place three courses of Class 3 riprap along toe of bank for 150 LF up-stream. Backfill with soil and plant willow bunches/cuttings.

Damage Assessment ID V068 Enjoined / Cancelled
Damage Assessment Estimate \$245,579
Location Sugar Pine and Ahwahnee Bridges
Damage Description Flood eroded existing relief and flood control channel for hotel and maintenance access road.
Recommended Action in 1997 Earthwork to reshape eroded channel from 100' width to 50'. Remove debris.

Team / Contractor NPS Staff
Start Date / Completion Date 1999 / 2003

Summary of Work Accomplished Initiated design for the Tenaya Creek bridge stabilization. Placed the package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Delayed further work while responding to legal claims against the *Merced River Plan*. Determined that the Tenaya Creek bridge does not require rock protection for stabilization.

Pursuant to the terms of the Settlement Agreement the environmental compliance for this previously enjoined project has been rescinded and any remaining work has been cancelled. Unused funding was redirected to the extensive utility repairs necessary to comply with the Cleanup and Abatement Order.

Environmental Compliance CE: 97127 and *Yosemite Valley Plan, EIS*



Project Completion Reports

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National Park Service
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Flood Funding	Package – 939	Account Number	Funds Obligated
	Site Work	8826-0730-7YR	\$ -0-
	Project Management	8826-0731-7YR	\$ 1,400.29
	Plan / Design / Compliance	8826-0732-7YR	\$ 693.21
	Total		\$ 2,093.50

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

940 – Repair Yosemite Valley Roads

Damage Assement ID	V141	Completed
Damage Assement Estimate	\$3,766	
Location	Ahwahnee road at Indian Creek Crossing	
Damage Description	Road shoulder is washed away west of creek.	
Recommended Action in 1997	Remove damaged asphalt 200 LF x 30'. Repair/replace 667 SY base. Repave 667 SY asphalt.	
Damage Assement ID	V186	Completed
Damage Assement Estimate	\$6,221	
Location	Northside Drive, 1.7 Miles W. of Gas Station; El Capitan Picnic Area	
Damage Description	Flood waters destroyed a culvert, inundated the roadway, scoured out the shoulders (575 LF, 1' deep), and compromised the integrity of the road's edge.	
Recommended Action in 1997	Place 110 LF aggregate base. Place riprap (24 CY, Class 1). Cap riprap with aggregate base (12 tons).	
Damage Assement ID	V187	Completed
Damage Assement Estimate	\$5,075	
Location	El Capitan Meadow East, Northside Drive, 2.3 Miles W. Gas of Station	
Damage Description	The Merced River inundated the road and washed out the shoulder (440 LF, 12" deep). The road was undercut through this stretch, exposing the road base.	
Recommended Action in 1997	Replace 440 LF of aggregate base (86 tons).	
Damage Assement ID	V188	Completed
Damage Assement Estimate	\$7,204	
Location	El Capitan Meadow, Northside Drive, 2.4 Miles West of Gas Station	
Damage Description	Side creeks and the Merced River inundated the roadway the entire length of the meadow (.5 mile), washing out the shoulder (maximum 1' deep), and undercutting the pavement.	
Recommended Action in 1997	Reconstruct 150 CY of roadway shoulder embankment (.5 mile long).	
Damage Assement ID	V190	Completed
Damage Assement Estimate	\$3,438	
Location	Northside Drive, 3.2 Miles West of Gas Station	
Damage Description	Flood washed out 150 LF of shoulder up to 2' deep, scouring deeply because of the 6% grade.	
Recommended Action in 1997	Place riprap (25 CY, Class 1).	



Project Completion Reports

Yosemite National Park

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U.S. Department of the Interior

Damage Assement ID V192 Completed
Damage Assement Estimate \$15,881
Location Valley View to Pohono Bridge. North Side Drive, 4.3 Miles West of Gas Station
Damage Description The Merced River inundated roadway, completely washing out 950 LF of shoulder on either side of the road, up to 1.5' deep, and undermining the pavement.
Recommended Action in 1997 Re-establish 1900 LF shoulders with 250 CY roadway embankment. Cap with 125 tons of aggregate base.

Damage Assement ID V195 Completed
Damage Assement Estimate \$6,549
Location South Side Drive, 3.4 Miles East of Pohono Bridge
Damage Description Flood waters plugged a culvert with silt and debris, destroying the stone masonry inlet headwall (4' x 5') and inundating the road.
Recommended Action in 1997 Flood waters plugged a culvert with silt and debris, destroying the stone masonry inlet headwall (4' x 5') and inundating the road.

Damage Assement ID V197 Completed
Damage Assement Estimate \$8,513
Location North Side Drive, 1/10 Mile Northeast of Stoneman Bridge
Damage Description The Merced River inundated both campgrounds and the entire road. Water washed out 700 LF of shoulder, up to 3' deep, on both sides of road. Also broke apart a 30 LF section of road.
Recommended Action in 1997 Rebuild shoulder (select borrow, 215 CY).

Damage Assement ID V282 Completed
Damage Assement Estimate \$818,597
Location Yosemite Valley Road System
Damage Description Following the flood, which inundated several miles of the Yosemite Valley road system, up to 45 heavy trucks per day accessed damaged areas of the park by travelling these roads. This caused major surface distresses (tension cracks, settling pavement, etc.). If they are not corrected, these sections will be susceptible to failure.
Recommended Action in 1997 Repair pavement as necessary with the following actions: pavement replacing; blade patching; sealing; and extensive overlaying.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2004



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

**Summary
of Work**

Accomplished

Temporarily stabilized the above listed roads. Completed the road shoulder, culvert and headwall work on Northside Drive. Repaired a shuttle bus stop in front of the Valley Visitor Center. Repaired sunken pavement along Southside Drive from Pohono Bridge to the Happy Isles area.

Repaired Valley roads in preparation for construction traffic. Repaved the Camp 6 intersection. Disposed of discarded asphalt from earlier road repairs. Completed Valley road repairs.

**Environmental
Compliance**

CEs

Flood Funding

Package – 940

Account Number

Funds Obligated

Construction	8826-0740-7YR	\$ 355,414.91
Construction Management	8826-0741-7YR	\$ 1,005.13
Plan / Design	8826-0742-7YR	\$ 1,531.52
Compliance	8826-0743-7YR	\$ 326.19
Valley Loop Road	8826-A740-7YR	\$ 2,992,627.42
Total		\$ 3,350,905.17

**Contributing
Fund Sources**

Emergency Relief for Federally Owned Roads \$942,237



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

941 – Repair High Country Roads

Damage Assessment ID	H005	Completed
Damage Assessment Estimate	\$44,450	
Location	Budd Creek, Tioga Road, Cathedral Lakes Trailhead	
Damage Description	Budd Creek jumped its channel at a sharp bend, scouring a new course across the gravel parking lot, and eroding 60 LF of both shoulders. The erosion created a drop-off on both sides and undermined the road 4"-6". Water continues to flow under the road.	
Recommended Action in 1997	Reconstruct road prism and regrade parking area to restore them to their pre-disaster condition. Excavate 260 CY of road. Reconstruct road prism (200 CY select borrow). Resurface road (60 tons aggregate base, 42 tons asphalt). Resurface parking area (325 tons aggregate base).	
Damage Assessment ID	H008	Completed
Damage Assessment Estimate	\$18,828	
Location	Old Tioga Road, to White Wolf Wastewater Treatment Plant	
Damage Description	Creek flood waters destroyed culvert and the entire 30 LF road bed.	
Recommended Action in 1997	Install culvert. Reconstruct 70 CY roadway prism. Place and compact 32 tons of aggregate base. Repave (70 tons, HACP). Rebuild culvert headwalls.	
Damage Assessment ID	H009	Completed
Damage Assessment Estimate	\$24,558	
Location	Clark Range Overlook, Glacier Point Road; One Mile North of Mono Meadows Trailhead	
Damage Description	Excess water loosened the soil around a large boulder (15' x 12'), causing it to fall onto the road, blocking 1.5 lanes.	
Recommended Action in 1997	Blast and remove the boulder from the road.	
Damage Assessment ID	H010	Completed
Damage Assessment Estimate	\$163,719	
Location	Tioga Road, ½ Mile East of Yosemite Creek	
Damage Description	The shoulder is gone on the uphill side of the road. Visual inspection from air indicates serious road damage.	
Recommended Action in 1997	cannot determine until June 1997, or spring opening. Based on visual air inspection.	



Project Completion Reports

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Damage Assessment ID	H011	Completed
Damage Assessment Estimate	\$163,719	
Location	Tioga Road, 2 Miles West of Siesta Lake	
Damage Description	Excess runoff took out the shoulder and pavement based on visual inspection from air. Our estimate takes into account potential road failure.	
Recommended Action in 1997	Cannot determine until June 1997 (or Spring opening). Based on visual air inspection.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 1999

Summary of Work Accomplished Accomplished repairs to the visitor center parking lot and roadside drainage. Reevaluated the Siesta Lake area and determined that damage was not as severe as originally estimated from aerial overview; completed minor maintenance to correct the damage.

Replace 2.3 miles of washed out road base, culverts and headwalls. Repaved roads.

Environmental Compliance CEs: 97153, 97156, 97157 and 97247

Flood Funding	Package – 941	Account Number	Funds Obligated
	Construction	8826-0750-7YR	\$ 103,886.74
	Construction Management	8826-0751-7YR	\$ 351.16
	Plan / Design / Compliance	8826-0752-7YR	\$ 3,424.26
	Total		\$ 107,662.16

Contributing Fund Sources Emergency Relief for Federally Owned Roads \$213,820



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

942 – Repair Big Oak Flat & Foresta Roads

Damage Assessment ID M063 Completed
Damage Assessment Estimate \$1,788
Location Foresta Dana Way
Damage Description Roadway was damaged by heavy equipment needed to remove hazardous trees. Two large holes, approximately 6' x 8', exist next to road.
Recommended Action in 1997 Grade roadway and fill holes. Gravel as required.

Damage Assessment ID M064 Completed
Damage Assessment Estimate \$245,579
Location Big Oak Flat Road, Foresta Road
Damage Description Following the flooding, up to 45 heavy trucks per day accessed damaged areas of the park by travelling these roads (18 miles). This caused major surface distresses (tension cracks, settling pavement, etc.). If not corrected, these sections will be susceptible to failure.
Recommended Action in 1997 Repair pavement as needed with the following actions: pavement replacing; blade patching; sealing; and minor overlaying.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2004

Summary of Work Accomplished Temporarily stabilized the Big Oak Flat Road and completed repairs to Dana Way. Repaired granite guard wall in three locations and sunken pavement on the Big Oak Flat Road. Disposed of discarded asphalt from earlier road repairs. Repaired or replaced 18 miles of damaged road surface.

Environmental Compliance CEs: 97144 and 97145

Flood Funding	Package – 942	Account Number	Funds Obligated
	Construction	8826-0760-7YR	\$ 193,916.08
	Construction Management	8826-0761-7YR	\$ 446.74
	Plan / Design	8826-0762-7YR	\$ 15,036.43
	Compliance	8826-0763-7YR	\$ 2,499.90
	Total		\$ 211,899.15

Contributing Fund Sources Emergency Relief for Federally Owned Roads \$1,324,000



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

943 – Wawona Road (Route 41)

Damage Assessment ID	W037	Completed
Damage Assessment Estimate	\$245,579	
Location	Wawona Road	
Damage Description	Following the flooding, up to 45 heavy trucks per day accessed damaged areas of the park by travelling the Wawona Road (36 miles). This caused major surface distresses (tension cracks, settling pavement, etc.). If they are not corrected, these sections will be susceptible to failure.	
Recommended Action in 1997	Repair road as necessary with the following actions: pavement replacing; blade patching; sealing; and minor overlaying.	

Team / Contractor	NPS Staff, FHWA Staff and Contractor
Start Date / Completion Date	1997 / 2004

Summary of Work Accomplished Temporarily stabilized the Wawona Road. Repaired road failures at Alder Creek, Strawberry Creek, and north and south of Wawona Campground. Completed patching and crack sealing required due to increased traffic.

Purchased materials for installation of underdrains in sections weakened by ground water saturation. Replaced underdrains and completed paving at Rail and Grouse Creeks. Replaced a culvert south of Wawona, repaved a 150-foot section of roadway at the Wawona Tunnel, and patched potholes. Disposed of discarded asphalt from earlier road repairs. Completed road repair.

Provided a temporary by-pass bailey bridge to serve as an interim fix to eliminate the potential closure of Highway 41. Removed the Flood damaged 1950 era bridge and constructed a 4,000 sq. ft. cast-in-place concrete bridge, including stone-faced guardwalls to match historic character of the cultural landscape.

Environmental Compliance CEs: 97152, 98522, 98536 and 2000-087 and *South Fork Bridge Removal and Replacement Project, EA*

Flood Funding	Package – 943	Account Number	Funds Obligated
	Construction	8826-0770-7YR	\$ 167,877.79
	Plan / Design / Compliance	8826-0772-7YR	\$ 3,864.22
	Total		\$ 171,742.01

Contributing Fund Sources Emergency Relief for Federally Owned Roads \$525,525
Federal Lands Highway Program \$5,919,219 – PMIS 6117



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

944 – Repair Concession Roads / Parking

Damage Assement ID V033 Completed by Concessionaire
Damage Assement Estimate \$13,910
Location Ahwahnee Hotel, Valet Parking
Damage Description Flooding damaged asphalt and 20 LF of curb. Potholes were created in the main parking lot.
Recommended Action in 1997 Replace 20 LF of curb. Repair sub-grade and base, then repave parking.

Damage Assement ID V072 Completed by Concessionaire
Damage Assement Estimate \$43,122
Location Tecoya, East of Small Garages and Firehouse; Yosemite Village Area
Damage Description Indian Creek left its banks and went through the driveway and parking areas around firehouse, security office, village store and YCS general offices. Damaged/removed asphalt paving and base course. Damaged storm drains around YCS general offices.
Recommended Action in 1997 Remove damaged asphalt (200 LF x 30'). Repair/replace 667 SY base course. Repave 667 SY. Repair and flush storm drains at YCS general office. Repair bridge over Indian Creek at H119.

Damage Assement ID V113 Completed by Concessionaire
Damage Assement Estimate \$8,186
Location Road at Middle Tecoya Housing
Damage Description Indian Creek left its banks and traveled south on this residential street, washing out the road and causing potholes and shoulder erosion.
Recommended Action in 1997 Repair road. Remove 94 SY of damaged pavement. Install 94 SY of base course and asphalt paving.

Team / Contractor NPS Staff and Concessionaire
Start Date / Completion Date 1998 / 1998

Summary of Work Accomplished Emergency repairs were performed by and at the expense of park concessioners. Completed Ahwahnee hotel valet parking repair work. Made temporary repairs to the driveways and parking areas at Tecoya and the road at Middle Tecoya housing in the Yosemite Village area. Designed and implemented parking repairs at the Tecoya area.

Environmental Compliance CEs: 97209, 97129 and 97130



Project Completion Reports

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National Park Service
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Flood Funding	Package – 944	Account Number	Funds Obligated
	Construction	8826-0780-7YR	\$ <u> </u> -0-
	Total		\$ <u> </u> -0-
Contributing Fund Sources	None		



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

945 – Roadside Revegetation

Project	Roadside Revegetation	Completed
Location	Parkwide	
Project Description	All new emergency road repair cut and fill slopes included in this package will be revegetated to accelerate the establishment of native plant communities and reduce erosion. The intent of this package is to revegetate these road corridors with a diversity of well-established native plant species that correspond with the adjacent plant communities	

Team / Contractor	NPS Staff and Bitterroot Restoration Inc.
Start Date / Completion Date	1997 / 2004

Summary of Work Accomplished All roads package estimates included a percentage for road revegetation. To simplify project management, these amounts have been withdrawn from the roads packages and consolidated into this revegetation package.

Collected over 350 pounds of seed from over 35 native plant species. Finalized planning for twenty-five acres of roadside revegetation and plant production. Applied seed to several road projects. Propagated and planted 23,000 plants. Continued plant propagation for future planting in other areas. Continued the tree root rot study to identify the extent of disease and avoid construction-caused spread.

Prepared responses to legal claims against the *Merced River Plan*, received a federal judge’s ruling upholding the validity of the *Merced River Plan*. Completed efforts to eradicate invasive plants along the El Portal Road through hand pulling, hoeing, mowing, scorching, and herbicide application. Completed seed production for revegetating areas disturbed by construction.

Environmental Compliance CEs and *El Portal Road Improvement, EA*

Flood Funding	Package – 945	Account Number	Funds Obligated
	Construction	8826-0790-7YR	\$ 801,703.43
	Construction Management	8826-0791-7YR	\$ 29,391.14
	Total		\$ 831,094.57

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Trails Packages

946 – Remove Yosemite Creek Bridge

Damage Assessment ID	V001	Completed
Damage Assessment Estimate	\$101,347	
Location	Yosemite Creek Pedestrian Bridge, (Downstream of Road Bridge)	
Damage Description	Debris attached to underside of bridge. Flood waters damaged railings and loosened the decking from pedestrian bridge. Washed away soil and rock from around the abutment, and 130' of deteriorated trail (40' span, 4' deck).	
Recommended Action in 1997	Remove damaged bridge and approach trails. Relocate pedestrian lighting to north side bikepath/trail, which will connect to existing lighting east of Residence One intersection. Restore the site and direct Lodge pedestrian traffic to crosswalk at Lower Falls intersection.	

Team / Contractor	NPS Staff and Butts Construction
Start Date / Completion Date	1999 / 2001

Summary of Work Accomplished Worked with the lighting team for the Lodge reconstruction project on the design of walkway lighting for this trail reroute; determined that bikepath lighting is inappropriate in this setting. Demolished the Yosemite Creek Bridge and approach trails.

Environmental Compliance CEs: 97070 and 98017

Flood Funding	Package – 946	Account Number	Funds Obligated
	Construction	8826-0800-7YT	\$ 39,123.24
	Plan / Design / Compliance	8826-0802-7YT	\$ 1,554.58
	Total		\$ 40,677.82

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

947 – Reconstruct Yosemite Valley Trails & Bridges

Damage Assement ID	H019	Completed
Damage Assement Estimate	\$139,104	
Location	Snow Creek Switchbacks	
Damage Description	Two sections of multi-tiered wall (170 SF), and two switchback corners were destroyed. Extensive tread damage. Several large boulders, and a debris flow, are blocking trail.	
Recommended Action in 1997	Rebuild walls and switchback corners. Repair tread and reconstruct terrace steps. Blast or quarry boulders and remove from trail. Clear debris from trail.	
Damage Assement ID	V008	Completed
Damage Assement Estimate	\$4,968	
Location	Lower Yosemite Falls Bridge at Base of Falls	
Damage Description	Overlook bridge railing damaged (two 10' segments of rails, one post on the bridge and one post on the east approach). Four bridge railings also damaged.	
Recommended Action in 1997	Replace bridge railing (2 posts and 4 rails and brace). Replace 4 bridge railings.	
Damage Assement ID	V030	Completed
Damage Assement Estimate	\$18,878	
Location	Indian Creek Bridge at Merced River (Bridge #10)	
Damage Description	Bridge #10 railing and decking destroyed, abutments nearly destroyed.	
Recommended Action in 1997	Reconstruct abutments. Re-install decking and railings.	
Damage Assement ID	V160	Completed
Damage Assement Estimate	\$1,987	
Location	Housekeeping Camp Bridge (to Lower River Campground)	
Damage Description	Abutments to bridge have lost soil and are undermined.	
Recommended Action in 1997	Replace 6 CY fill and 12 CY riprap.	
Damage Assement ID	V164	Completed
Damage Assement Estimate	\$36,962	
Location	Clark's Bridge Trails	
Damage Description	Sidewalk and trails washed out.	
Recommended Action in 1997	Replace 12 SY concrete walk. Replace 6' x 1000 LF asphalt trail.	



Project Completion Reports

Yosemite National Park

National Park Service
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Damage Assessment ID	V219	Completed
Damage Assessment Estimate	\$2,981	
Location	Bridge #11, Indian Creek, Above Clinic	
Damage Description	Damage to all four corners of abutments and footings. Rocks are missing. Bridge is 25' span x 8' wide.	
Recommended Action in 1997	Replace rocks that were dislodged from abutment.	
Damage Assessment ID	V220	Completed
Damage Assessment Estimate	\$7,963	
Location	Bridge #12, Superintendent's Bridge	
Damage Description	13 sections of posts, railings, angle braces and flyers were leveled.	
Recommended Action in 1997	Replace 13 sections of railing and posts, angle braces and flyers.	
Damage Assessment ID	V223	Cancelled
Damage Assessment Estimate	\$17,885	
Location	Bridge #5, Lost Arrow	
Damage Description	Stone and concrete approach on west end is totally undermined, and the walking surface on approach is destroyed.	
Recommended Action in 1997	Repair footings to western approach and replace concrete approach ramp. Repair footings to 60 LF of the western approach ramp. Use mortared stone.	
Damage Assessment ID	V224	Completed
Damage Assessment Estimate	\$497	
Location	Bridge #22, Lost Arrow to Church Bowl	
Damage Description	Loss of rocks at top of abutment.	
Recommended Action in 1997	Replace damaged abutments.	
Damage Assessment ID	V230	Cancelled
Damage Assessment Estimate	\$34,975	
Location	Lower Yosemite Fall Loop Trail (From Parking Lot to Bridge at Base of Falls, Over to Government Housing, and Back to Parking Lot)	
Damage Description	Floods removed the 10' x 8' asphalt overlook area, ramped asphalt approach, and 180 LF x 5' asphalt trail. Water and debris eroded 120 LF x 5' trail, washed away John Muir sign, 5' x 80' trail and 20' x 30' overlook. Shoulder work required walkway.	
Recommended Action in 1997	Replace overlook with base material and asphalt. To repair trail: install, place and compact sub-base and base. Use a base course and water break instead of a culvert. Place sub-base and base to repair John Muir trail and overlook. Remove debris. Repair shoulders.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Assessment ID	V232	Completed
Damage Assessment Estimate	\$152,815	
Location	Stock-Use Trail to Vernal Fall Restroom and John Muir Trail; Happy Isles to Vernal Fall Bridge	
Damage Description	Flood waters washed away sections of the stock causeway trail, culverts, concrete trail tread and dry-laid rock wall. Trail tread was washed away, and debris was deposited on the John Muir Trail. Railings were damaged on Vernal Fall Bridge.	
Recommended Action in 1997	Reconstruct causeway trails. Replace culverts. Rebuild terraces and wet stone walls. Repair railings on Vernal Fall Bridge.	
Damage Assessment ID	V233	Completed
Damage Assessment Estimate	\$19,077	
Location	Happy Isles to Tenaya Creek Road Bridge	
Damage Description	Trail tread eroded and three creek crossings were demolished. This segment of trail is approximately one mile long.	
Recommended Action in 1997	Reconstruct three fords, and replace tread as needed.	
Damage Assessment ID	V234	Cancelled
Damage Assessment Estimate	\$18,481	
Location	Beginning of the John Muir Trail at the Happy Isles Gauging Station Bridge	
Damage Description	Flood waters washed away 30' x 30' segment of asphalt bridge on east side. The wall and pipe railing around the gauging station are severely damaged.	
Recommended Action in 1997	Reconstruct walk with 11.2 tons of base material and 100 SY of asphalt. Repair wall and weld pipe railing.	
Damage Assessment ID	V236	Completed
Damage Assessment Estimate	\$361,669	
Location	Valley Floor Loop Trail	
Damage Description	This 15.6-mile trail sustained damage from overflowing streams. Culvert headwalls were damaged, and trail retaining walls were damaged or destroyed. Five trail segments were washed out, including those at Three Brothers, Bridalveil Meadow Bluffs and Sentinel Creek.	
Recommended Action in 1997	Repair tread. Re-establish drainages. Repair footings to walls, walls, culverts and culvert walls. Re-route trail in five areas where it was completely destroyed.	



Project Completion Reports

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Damage Assessment ID	V237	Completed
Damage Assessment Estimate	\$33,782	
Location	First Mile of Four Mile Trail from Yosemite Valley	
Damage Description	Flooding caused significant damage to walls, tread and fords. Debris was deposited on successive switchbacks on the first mile of the Four Mile Trail (leaving from Yosemite Valley).	
Recommended Action in 1997	Remove deposited materials and reconstruct walls and fords. Riprap and re-establish drainages.	
Damage Assessment ID	V241	Completed
Damage Assessment Estimate	\$26,430	
Location	Safety Railing at Top of Nevada Fall	
Damage Description	Flooding destroyed 100' of safety railing (1" galvanized pipe).	
Recommended Action in 1997	Replace safety railing (requires welding on-site; helicopter needed).	
Damage Assessment ID	V242	Completed
Damage Assessment Estimate	\$50,475	
Location	Trail from the Vernal Fall Overlook Bridge to Happy Isles Bridge, then to Shuttle Bus Stop	
Damage Description	Excessive water destroyed 375' of paved walkway, 600 LF of single tier wall, and 40' of two tiered wall.	
Recommended Action in 1997	Lay 800 SF of dry wall. Regrade and lay base material. Install 6' wide asphalt tread.	
Damage Assessment ID	V260	Completed
Damage Assessment Estimate	\$47,693	
Location	Bridge #36, Nevada Fall	
Damage Description	Posts and railings are destroyed, and decking is damaged.	
Recommended Action in 1997	Replace posts, railings and deck. Deliver materials to site by helicopter.	
Damage Assessment ID	V262	Completed
Damage Assessment Estimate	\$166,726	
Location	Bridge #35, Silver Apron	
Damage Description	Bridge on popular Nevada Fall foottrail was destroyed and abutments were moderately damaged (40' span).	
Recommended Action in 1997	Retrieve, disassemble and remove the old bridge by helicopter. Repair abutments. Mill new wood stringers. Transport posts, rails, stringers, and hardware to site by helicopter. Install new bridge.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Assessment ID W032 Completed
Damage Assessment Estimate \$77,501
Location Alder Creek Trail from Wawona to Mosquito Junction
Damage Description Tread was seriously eroded along a heavily terraced trail section. This section was terraced to mitigate an eroded scar in 1983. Without repair, this scar will re-establish itself. The remainder of the trail segment will require intermittent repair to drainage structures. There is also substantial windfall near the upper end at Mosquito Creek Junction.

Recommended Action in 1997 Reconstruct terraced section. Improve drainage system upslope to protect in the future. Repair all drainage structures. Clear all windfalls.

Damage Assessment ID W034 Cancelled
Damage Assessment Estimate \$84,853
Location Swinging Bridge, Wawona
Damage Description Bridge deck is gone. Cables, hardware and south abutment are seriously damaged. South tower leans 10" off plumb.

Recommended Action in 1997 Rebuild south abutment and reset tower. Reconstruct bridge and all new components.

Team / Contractor NPS Staff, TE Services and U.S. DOJ Staff
Start Date / Completion Date 1997 / 2003

Summary of Work Accomplished Reconstructed eight of the ten trails, and determined that one trail (John Muir trailhead segment) will not require repair due to the removal of the Happy Isles Bridge. Repaired ten of the eleven bridges, and determined that one bridge (Lost Arrow Bridge Number 5) does not require repair due to trail reconfiguration at Lower Yosemite Falls.

Completed work includes one trail and one bridge at the Lower Yosemite Falls project. Placed the package on hold until completion of the *Yosemite Valley Plan*. Issued a Record of Decision for the *Yosemite Valley Plan* on 12/29/00. Prepared responses to legal claims against the *Merced River Plan*. Completed reconstruction of the final trail.

Removed the Happy Isles Bridge due to structural damage sustained during the flood, as well as subsequent deterioration and structural failure (including a large sinkhole on the river-left abutment).



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Environmental Compliance CEs, Yosemite Valley Plan, EA and Happy Isles Gauging Station Bridge Removal Project, EA

Flood Funding	Package – 947	Account Number	Funds Obligated
	Construction	8826-0810-7YT	\$ 868,590.85
	Construction Management	8826-0811-7YT	\$ 69,341.31
	Plan / Design	8826-0812-7YT	\$ 310,700.01
	Compliance	8826-0813-7YT	\$ 18,147.72
	Management	8826-0814-7YT	\$ 85,977.35
	MRP–Trails	8826-0817-7YT	\$ 99,956.87
	Total		\$ 1,452,714.11

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

948 – Reconstruct Asphalt Trails & Bikeways

Damage Assement ID	V228	Completed
Damage Assement Estimate	\$135,129	
Location	Asphalt Paved Walkways Other than Bike Trails	
Damage Description	<p>A. Stoneman Bridge to pedestrian crossing at lower end of River Campgrounds: approach to bridge has been destroyed, and 30' section of trail is gone.</p> <p>B. Walkway from Sentinel to Superintendent's Bridge is washed out for 30'.</p> <p>C. Approaches on both sides of Indian Creek Bridge washed out. Shoulder is also washed out.</p> <p>D. Compacted roadbase washed away.</p> <p>E. Trail from LeConte Memorial to Housekeeping Bridge is destroyed.</p>	
Recommended Action in 1997	<p>A. Lay 100 SF of wall and 200 SF asphalt. Lay 60 SF wall and patch asphalt at culvert.</p> <p>B. Excavate damaged sections. Regrade, sub-grade and replace asphalt.</p> <p>C. Reconstruct approaches and rebuild shoulder.</p> <p>D. Relay and compact roadbase.</p> <p>E. Relay outside retaining wall. Regrade. Remove old asphalt and replace with new.</p>	
Damage Assement ID	V231	Cancelled
Damage Assement Estimate	\$8,942	
Location	Asphalt Walk from Lower Fall Bus Stop to Restroom at the Beginning of the Lower Fall Loop Trail	
Damage Description	Two asphalt walks were destroyed in this area: one is 5' x 180 LF, the other is 5' x 60 LF. All walks have 2" x 4" redwood edge. All base courses were washed away.	
Recommended Action in 1997	Rebuild asphalt walkways: 5' x 180 LF (bus stop to restroom) and 5' x 60 LF (bus stop toward loop trail bridge).	
Damage Assement ID	V235	Completed
Damage Assement Estimate	\$222,566	
Location	Yosemite Valley Bikeways	
Damage Description	Flooding eroded bikeway shoulders, destroyed asphalt and undercut culvert headwalls. Silt and sand covered the bikeway and filled drainages.	
Recommended Action in 1997	Restore bikeway shoulders. Repair culvert headwalls. Sawcut damaged asphalt sections. Clean drainages. Repave bikeway.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Assessment ID	V261	Completed
Damage Assessment Estimate	\$31,795	
Location	Bridalveil Parking Lot to Bridalveil Straight / Old Carriage Road	
Damage Description	High water eroded 1150 feet of asphalt trail.	
Recommended Action in 1997	Remove old material and resurface.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 2002

Summary of Work Accomplished	Completed major repairs to the asphalt trails and to seven miles of bikeways in Yosemite Valley. Delayed further work while responding to legal claims against the <i>Merced River Plan</i> . Completed paving and rockwork along the Bridalveil Fall carriage path.
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Environmental Compliance	CEs: 97266, 97202, 97069 and 2001-119
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Flood Funding	Package – 948	Account Number	Funds Obligated
	Construction	8826-0820-7YT	\$ 303,303.98
	Construction Management	8826-0821-7YT	\$ 6,272.36
	Plan / Design	8826-0822-7YT	\$ 3,110.53
	Compliance	8826-0823-7YT	\$ 640.78
	Total		\$ 313,327.65

Contributing Fund Sources	None
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Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

949 – Reconstruct Mirror Lake Bridges & Trails

Damage Assessment ID	V026	Completed
Damage Assessment Estimate	\$255,951	
Location	Tenaya Creek Pedestrian Bridge at Mirror Lake	
Damage Description	Flood waters completely destroyed this pedestrian bridge and washed away the boulder abutment on the south side.	
Recommended Action in 1997	Because of extensive erosion, the bridge cannot be reconstructed at the former location. Construct a new 60' span bridge and new abutments upstream. Retrieve old bridge parts that were carried downstream. New bridge should have a standard 8' width.	
Damage Assessment ID	V044	Completed
Damage Assessment Estimate	\$5,962	
Location	Mirror Lake Carriage Road Trail near Mirror Lake	
Damage Description	Erosion and scouring along the trail.	
Recommended Action in 1997	Rehabilitate 200 LF of trail (historic). Replace 50' of rock along trail.	
Damage Assessment ID	V222	Completed
Damage Assessment Estimate	\$248,399	
Location	Bridge #17, Tenaya Creek Stock Bridge above Mirror Lake	
Damage Description	This stock and foot bridge on the popular Muir Lake Loop trail was destroyed. The north mortared stone abutment collapsed into Tenaya Creek. Three 48' x 16" steel I-beam stringers were washed away. Approximately 40 LF of the dry-laid stone approach to the south abutment was washed out.	
Recommended Action in 1997	Build a new mortared stone abutment (10' x 15" x 15"). Reconstruct approximately 40 LF x 8" high dry-laid stone approach to abutment. Install new bridge, noting that the present standard practice is to use all wood material. Locate and retrieve old bridge materials. Will require substantial helicopter use.	
Damage Assessment ID	V227	Completed
Damage Assessment Estimate	\$47,693	
Location	Mirror Lake All-Access Trail	
Damage Description	Flooding destroyed a 10' section of single tier wall, undermined a 25' section of single tier wall, and washed away 250 LF (100 tons) of road base.	
Recommended Action in 1997	Reconstruct rock walls. Replace and compact washed out tread. Replace 100 tons of road base.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Damage Assessment ID	V238	Completed
Damage Assessment Estimate	\$89,424	
Location	Mirror Lake Loop (Excluding Snow Creek Trail Junction, Across Tenaya Creek, One Mile Downstream; and Rock Slide)	
Damage Description	Flooding caused intermittent and substantial loss of tread, walls, and footings to walls.	
Recommended Action in 1997	Repair tread. Re-establish drainages and construct new footings. Repair damaged terraces and construct 20 new terraces. Reconstruct failed walls.	

Damage Assessment ID	V239	Completed
Damage Assessment Estimate	\$576,286	
Location	Mirror Lake Loop Trail from Snow Creek Trail Junction, Across Tenaya Creek and One Mile Downstream	
Damage Description	A quarter-mile of a bluff, which supported the trail, collapsed into the creek. The remainder (except 500') has been either carried away or covered in silt and sand deposits up to 4' deep.	
Recommended Action in 1997	Establish new route and construct new trail.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1997 / 2001

Summary of Work Accomplished	Repaired the "all access" portion of the Mirror Lake loop trail. Completed work on the northwest end of the Mirror Lake loop trail. Prepared the north side of the trail for trail rides. Completed reconstruction and rerouting of the south and northeast portions of the Mirror Lake loop trail. Surveyed and documented archeological features. Completed reconstruction of two bridges and trail rerouting/reconstruction. Removed bridge abutment downstream of Mirror Lake.
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Environmental Compliance	CEs: 97267, 97064, 97257, 97260 and 98523, and the <i>Mirror Lake Project, EA</i>
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Flood Funding	Package – 949	Account Number	Funds Obligated
	Construction	8826-0830-7YT	\$ 619,365.35
	Construction Management	8826-0831-7YT	\$ 77,005.80
	Plan / Design	8826-0832-7YT	\$ 42,714.91
	Compliance	8826-0833-7YT	\$ 33,107.44
	Total		\$ 772,193.50

Contributing Fund Sources	None
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Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

950 – Reconstruct Wapama Falls Trail

Damage Assement ID H026 Completed

Damage Assement Estimate \$287,547

Location Bridge #79, Wapama and West Bridge

Damage Description Bridge and abutment were destroyed when a new 40'-wide channel was established. A pier shared with a bridge to the east is also damaged.

Recommended Action in 1997 Retrieve and dispose of old bridge. Repair the pier shared with the bridge to the east. The wider channel means the span of the bridge must be increased to the west. Construct a new pier to be shared with new span to the west. Construct new approach and abutment to west. Install two new bridge spans. Transport all bridge materials by helicopter.

Damage Assement ID H027 Completed

Damage Assement Estimate \$180,835

Location Tueeualala Falls, Falls Creek

Damage Description Approximately 400' of heavily constructed trail was totally washed away as the creek re-channeled.

Recommended Action in 1997 Reconstruct trail and construct stone fords. This will require rock construction up to 6' high for 400 LF, with riprap tread.

Damage Assement ID M047 Completed

Damage Assement Estimate \$129,168

Location Wapama Falls Bridge at Falls Creek

Damage Description Flood waters widened a channel from 8' to 20', destroying the bridge and an elevated mortared causeway leading to the bridge. Flooding also destroyed 30' of the mortared riprap approach to the next bridge to the west.

Recommended Action in 1997 Reconstruct mortared approach, causeway and channel. Install bridge (new span must be 20'). Retrieve old bridge and dispose.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2001

Summary of Work Accomplished Constructed new abutments and four bridges. Completed trail repair.



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Environmental Compliance CEs: 97078, 97079 and 97271

Flood Funding	Package – 950	Account Number	Funds Obligated
	Construction	8826-0840-7YT	\$ 322,298.93
	Construction Management	8826-0841-7YT	\$ 38,830.51
	Plan / Design / Compliance	8826-0842-7YT	\$ 2,799.73
	Total		\$ 363,929.17

Contributing Fund Sources None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

951 – Reconstruct High Country Trail Bridges

Damage Assessment ID	H001	Completed
Damage Assessment Estimate	\$14,308	
Location	Bridge #56, John Muir Footbridge, Rafferty Creek	
Damage Description	Railings, knee braces and flyers were destroyed.	
Recommended Action in 1997	Install new knee braces, flyers and railings.	
Damage Assessment ID	H003	Completed
Damage Assessment Estimate	\$11,923	
Location	Bridge #58, Unicorn Creek Bridge	
Damage Description	Railing and decking destroyed. Abutment damaged moderately.	
Recommended Action in 1997	Install new decking, posts and railings. Repair stone abutments.	
Damage Assessment ID	H004	Completed
Damage Assessment Estimate	\$79,885	
Location	Bridge #81, Vernon Lake Outlet Bridge	
Damage Description	Flood waters completely washed out 34' span bridge.	
Recommended Action in 1997	Install new bridge.	
Damage Assessment ID	H016	Completed
Damage Assessment Estimate	\$14,904	
Location	Bridge #40, Twin Bridges, Up Canyon	
Damage Description	Large rocks washed out footing on east end abutment, leaving abutment hanging.	
Recommended Action in 1997	Establish new footing and build up into unkeyed courses at low water.	
Damage Assessment ID	H017	Completed
Damage Assessment Estimate	\$188,386	
Location	Bridge #39, Twin Bridges, Down Canyon Trail between Lost Valley and Echo Valley	
Damage Description	Metal half of bridge is twisted, and wooden half-railing is missing. Abutment on island side is destroyed, except for front wall (where stringers hang). Middle pier is damaged on top. Approach to abutment is destroyed.	
Recommended Action in 1997	Remove damaged bridge structures. Reconstruct abutment. Repair middle pier. Transport new stringers, posts, rails, mortar and concrete by helicopter. Install new bridges.	



Project Completion Reports

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Damage Assessment ID	H018	Completed
Damage Assessment Estimate	\$234,886	
Location	Bridge #41, Echo Valley, Main River Bridge	
Damage Description	Double span bridge (60' span) is destroyed. Six steel stringers are somewhere down canyon. Middle pier is seriously damaged, and south abutment is demolished.	
Recommended Action in 1997	Retrieve old stringers by helicopter. Reconstruct south abutment and middle pier (must wait for low water to rebuild abutments). Install new bridges. Deliver all materials by helicopter.	
Damage Assessment ID	H020	Completed
Damage Assessment Estimate	\$168,912	
Location	Bridge #73, Rancheria Creek Bridge above City Camp	
Damage Description	Bridge is gone, yet abutments appear to be fine. Old 50' bridge was built with prefabricated, glue-laminated beams and hardware	
Recommended Action in 1997	Replace bridge. Retrieve and dispose of old bridge. Requires extensive helicopter assistance.	
Damage Assessment ID	H021	Completed
Damage Assessment Estimate	\$95,385	
Location	Bridge #71, Pate Valley, Secondary Bridge	
Damage Description	One stringer was twisted, and one stringer was bowed on this 40' span bridge. Bridge decking and railing were destroyed. Approaches sustained major damage.	
Recommended Action in 1997	Remove old bridge. Install new stringer, deck and rails. Reconstruct approaches. Transport all materials by helicopter.	
Damage Assessment ID	H022	Completed
Damage Assessment Estimate	\$290,925	
Location	Bridge #70, Pate Valley and Tuolumne River	
Damage Description	Bridge is gone, including the massive abutment on the north side.	
Recommended Action in 1997	Redesign bridge span approximately 75'. Construct new abutment. Install new bridge. Use helicopter to deliver materials to site.	
Damage Assessment ID	H023	Completed
Damage Assessment Estimate	\$141,091	
Location	Bridge #68, Return Creek, Grand Canyon of the Tuolumne	
Damage Description	Flooding destroyed this 60 LF x 8' bridge. Middle pier requires new footing, keyed below waterline.	
Recommended Action in 1997	Repair middle pier. Install new bridge. Deliver all materials to site.	



Project Completion Reports

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Damage Assessment ID H024 Completed
Damage Assessment Estimate \$19,872
Location Bridge #63, Soda Springs Bridge
Damage Description Flooding caused substantial damage to abutments, including loss of cut rocks. Also damaged concrete approach pads.
Recommended Action in 1997 Repair abutment with cut or retrieved rock. Form and pour concrete approaches.

Damage Assessment ID H025 Completed
Damage Assessment Estimate \$31,795
Location Bridge #66, Glen Aulin Bridge / Tuolumne River
Damage Description Approach on south side is demolished.
Recommended Action in 1997 Reconstruct retaining walls. Fill and install concrete tread.

Damage Assessment ID H028 Completed
Damage Assessment Estimate \$73,129
Location Snow Creek and North Rim
Damage Description Snow Creek cut a new channel, destroying 30' of trail from the creek bank to the west abutment, which was also destroyed.
Recommended Action in 1997 Construct new approach to bridge: 600 SF of rock wall construction and 90 CY of fill.

Damage Assessment ID H031 Completed
Damage Assessment Estimate \$33,782
Location Ostrander Trail Bridge
Damage Description High water demolished the decking and railing, and collapsed the abutments on this bridge. Steel stringers were not damaged.
Recommended Action in 1997 Remove stringers. Reconstruct abutments. Pull in rock with pulling team. Re-install stringers. Install decking and railings.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2001

Summary of Work Accomplished Replaced ten bridges and repaired six bridges.

Environmental Compliance CEs



Project Completion Reports

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Flood Funding	Package – 951	Account Number	Funds Obligated
	Construction	8826-0850-7YT	\$ 593,145.02
	Construction Management	8826-0851-7YT	\$ 64,346.50
	Plan / Design	8826-0852-7YT	\$ 8,852.67
	Compliance	8826-0853-7YT	\$ 4,045.64
	Total		\$ 670,389.83

**Contributing
Fund Sources** None



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

952 – Repair Happy Isles Bridges & Trails

Damage Assessment ID	V042	Completed
Damage Assessment Estimate	\$5,564	
Location	Happy Isles West Footbridge #30 (Nature Center to First Island)	
Damage Description	Abutment damage on Nature Center side of river. Note: this bridge was previously damaged by rockfall.	
Recommended Action in 1997	Repair abutment.	
Damage Assessment ID	V154	Completed
Damage Assessment Estimate	\$44,116	
Location	Happy Isles Footbridge #01 (Vernal Fall Trail to Second Island)	
Damage Description	Flood waters completely removed the steel stringers, wood decking, railings and the wet stone masonry abutment on the west side of the bridge. This is a 40' x 8' pedestrian bridge.	
Recommended Action in 1997	Replace 40' x 8' pedestrian bridge. Replace with wood stringers instead of steel. Set new west side abutment back.	
Damage Assessment ID	V155	Completed
Damage Assessment Estimate	\$65,776	
Location	Happy Isles Footbridge #02 (First Island to Second Island)	
Damage Description	Flood waters destroyed this 69' x 8' steel stringer bridge. One wet stone masonry abutment was destroyed. This is a double-span bridge with a middle pier.	
Recommended Action in 1997	Reconstruct the abutment and construct a new bridge measuring 69' x 8'.	
Damage Assessment ID	V168	Completed
Damage Assessment Estimate	\$3,974	
Location	Happy Isles Trail from Nature Center to Service Road	
Damage Description	250' x 6' trail scoured, gravel surface removed.	
Recommended Action in 1997	Repair 250' x 6' trail.	
Damage Assessment ID	V229	Completed
Damage Assessment Estimate	39,744	
Location	Happy Isles All-Access Trail (Islands)	
Damage Description	Floods washed out approximately 500 LF of paved trail. One dry-laid rock wall was destroyed by a log in the river (20 trees fell on trail).	
Recommended Action in 1997	Cut and remove fallen trees. Clear debris. Reconstruct rock wall. Rebuild trail.	



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Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2001

Summary of Work Accomplished Reconstructed two of three trail bridges spanning the Happy Isles. Decided to remove the third bridge span and completed that removal. Constructed the stone retaining wall and reconstructed 500 feet of trail. Removed the remaining 250 feet of trail through rerouting of the trail over the bridge.

Environmental Compliance CEs: 97314, 97196, 97313, 97199, 97200 and 98525

Flood Funding	Package – 952	Account Number	Funds Obligated
	Construction	8826-0860-7YT	\$ 57,279.13
	Construction Management	8826-0861-7YT	\$ 11,958.54
	Plan / Design	8826-0862-7YT	\$ 1,346.93
	Compliance	8826-0863-7YT	\$ 2,531.40
	Total		\$ 73,116.00

Contributing Fund Sources None



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953 – High Country Trails Assessments & Repairs

Damage Assessment ID H030 Completed
Damage Assessment Estimate \$4,769,266
Location High Country Trails
Damage Description Based on air inspections of high country damage, additional trail and bridge damage is expected throughout the higher elevations.
Recommended Action in 1997 Conduct detailed damage assessments when snow melts to determine extent of damage and repair costs.

Damage Assessment ID H032 Completed
Damage Assessment Estimate 351,733
Location The Trail from Glen Aulin, down the Grand Canyon of the Tuolumne, to Pate Valley
Damage Description This 12-mile segment of trail parallels the Tuolumne River. Three sections (approximately 30 LF each) were washed out. Damage is expected in other locations.
Recommended Action in 1997 Reconstruct destroyed sections. Re-key damaged walls. Remove debris for total length of trail. Further damage assessments will be conducted this summer.

Team / Contractor NPS Staff
Start Date / Completion Date 1997 / 2004

Summary of Work Accomplished Assessed 232 miles of trail. Repaired or reconstructed 197 miles of trail. Finalized high country trail work.

Environmental Compliance CEs

Flood Funding	Package – 953	Account Number	Funds Obligated
	Construction	8826-0870-7YT	\$ 2,998,721.30
	Construction Management	8826-0871-7YT	\$ 339,316.31
	Plan / Design	8826-0872-7YT	\$ 42,132.08
	Compliance	8826-0873-7YT	\$ 234,066.51
	Management	8826-0874-7YT	\$ 258,653.00
	Total		\$ 3,872,889.20

Contributing Fund Sources None



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954 – Hydrological Assessment Lower Yosemite Falls

Damage Assessment ID	V028	Completed
Damage Assessment Estimate	\$13,272	
Location	Lower Yosemite Falls	
Damage Description	High water uprooted trees and brought down limbs, compromising the scenic vistas. Vegetative material has filled the braided streams, resulting in additional trail erosion due to channel changes.	
Recommended Action in 1997	Perform hydrologic assessment of area, now that stream channels have changed. This will allow us to determine the streams' effect on current trail and bridge maintenance and repairs. It will also help with future redesign of this area.	

Team / Contractor	NPS Staff
Start Date / Completion Date	1998 / 1998

Summary of Work Accomplished Completed a hydrological data analysis and evaluation report. The results of this hydrological study will be incorporated into current park planning for repair / reconstruction of bridges and trail design at the Lower Yosemite Fall visitor use area.

Environmental Compliance None Required

Flood Funding	Package – 954	Account Number	Funds Obligated
	Construction	8826-0880-7YT	\$ 8,447.00
	Construction Management	8826-0881-7YT	\$ 4,498.95
	Total		\$ 12,945.95

Contributing Fund Sources None



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Utilities Packages

955 – Reconstruct Yosemite Valley Utility Systems

Damage Assessment ID	V002	Completed
Damage Assessment Estimate	\$141,886	
Location	Abbieville Water Main	
Damage Description	Well house flooded. All pumps, motors, controls, and chlorinator were damaged.	
Recommended Action in 1997	Repair well house to pre-flood condition. Waterproof interior walls. Replace all equipment, wiring, chlorine instrumentation, motors and controls. Rehabilitate to code. Encase river crossing. Provide backup power supply to generator room of lift station (river crossing).	
Damage Assessment ID	V004	Completed
Damage Assessment Estimate	\$403,997	
Location	Abbieville Research Center Tie-In	
Damage Description	Well house completely flooded. All electrical controls, motors, instrumentation and control devices flooded. Equipment inoperable.	
Recommended Action in 1997	Repair well house to pre-flood condition. Waterproof interior walls. Replace all equipment, wiring, chlorine instrumentation, motors and controls. Rehabilitate to meet code. Refurbish pump.	
Damage Assessment ID	V006	Completed
Damage Assessment Estimate	\$169,905	
Location	From Parkline to the Waste Water Treatment Plant, Approximately 2.5 Miles	
Damage Description	All pumps, motors, controls, MCCs, emergency generators, and miscellaneous equipment were flooded.	
Recommended Action in 1997	Replace mechanical pumping system, motors, motor control centers and controller. Provide interaction with Valley water and wastewater systems. Waterproof lift station and wet well. Enclose generator room. Revise generator louver system, relocating intakes exhausters.	
Damage Assessment ID	V007	Completed
Damage Assessment Estimate	\$190,771	
Location	Yosemite Creek, Well #1	
Damage Description	Well house flooded, submerging motors, controls, MCCs, instrumentation and control devices.	



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Recommended Action in 1997	Repair well house to pre-flood conditions. Replace all motors, controls, instrumentation and control devices. Waterproof interior and exterior of building.	
Damage Assessment ID	V010	Completed
Damage Assessment Estimate	\$496,799	
Location	Sewer Collection System Repair, Entire System in Yosemite Valley	
Damage Description	Collection system infiltrated with sand, rocks and debris. Manhole lids were dislodged. Plumbing fixtures and floor drains in campground restrooms were submerged and wash basins were plugged. Damage to piping system is suspected at river crossings (will require video inspection to identify damages).	
Recommended Action in 1997	Clean and repair valley sewer collection system. Clean sewer line (25,000 LF) and lift station. Perform video pipe inspection (5,000 LF). Clean up sewer discharge. Perform miscellaneous sewer repairs.	
Damage Assessment ID	V012	Completed
Damage Assessment Estimate	\$92,904	
Location	High Voltage Electrical Tower #58	
Damage Description	A tree, toppled by the flood, uprooted a 2" abandoned metal pipe.	
Recommended Action in 1997	Remove pipe and dispose (40 LF).	
Damage Assessment ID	V163	Completed
Damage Assessment Estimate	\$158,976	
Location	Lift Stations at North Pines and Lower River Campgrounds	
Damage Description	Lift stations are full of sand and debris.	
Recommended Action in 1997	Restore lift station to previous working condition. Clean out sand and debris. Evaluate controls and pumps. Check electrical systems.	
Damage Assessment ID	V281	Completed
Damage Assessment Estimate	\$84,456	
Location	Water Line Connecting North Pines Campground with Lower Pines Campground under Merced River at Clark's Bridge	
Damage Description	Water line cracked in middle of creek.	
Recommended Action in 1997	Install Cofferdam with a crane and de-water. Replace 50' of 6" water line. Backfill 200 yards.	
Team / Contractor	NPS Staff, Kennedy Jenks, Erick Ammon, Mazingo Construction, Butts Construction, Underground Construction and Allison Sierra	
Start Date / Completion Date	1997 / 2012	



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Summary of Work Accomplished

Installed new motor control centers for the wells and retrofitted the lift stations. Completed the employee training and software testing required for the new computerized monitoring system. Installed a new waterline to cool the lift station backup generators. Replaced pumps for the Yosemite Creek lift station. Delayed further work while responding to legal claims against the *Merced River Plan*.

Following the 1997 flood, the extensive damage to sewer systems in Yosemite Valley led to numerous sewage releases and a Cleanup and Abatement Order was issued by the California State Water Quality Board. Once repairs began, the full extent of the damage to the utility infrastructure revealed that additional work would need to be done.

Cleanup and Abatement Order 5-00-703 issued by the California Regional Water Quality Control Board and approved by the Court directed the NPS to complete utility rehabilitation and improvements necessary to prevent potential sewage spills. (Attached as Appendix G) As a result, funding from cancelled projects was redirected to cover the increased costs of utility system rehabilitation. Redirected funding was reviewed and approved by the NPS comptroller and identified for Congress in the Quarterly Reports.

An assessment was made of the Yosemite Valley utility system to determine what improvements to the facilities would be made to ensure protection of human health and water quality. The assessment identified the status of the utility lines and categorized them according to their potential for failure. The categories included: Imminent Failure, Near-Term Failure, Mid-Term Failure, and Long-Term Failure. This allowed the park to develop short and long term utility projects to complete rehabilitation of the utility system in a sequential manner.

The park developed an integrated utility master plan to guide the phasing, upgrade, relocation, abandonment and/or removal, and consolidation of various utilities (sewer, water, electric, and communication) and to determine a comprehensive course of action to address the Cleanup and Abatement Order. The Utility Master Plan provided for an efficient consolidation of utilities, maximizing the use of existing transportation corridors and minimizing use of environmentally sensitive areas. Utility systems (power, water and sewer) in the Valley were redesigned and relocated to minimize the potential for damage from future flooding events.

Environmental Compliance *Yosemite Valley Plan, EIS and East Yosemite Valley Utilities Improvement Plan, EA*

Flood Funding	Package – 955	Account Number	Funds Obligated
	Construction	8826-0900-7YU	\$ 2,879,590.28
	Construction Management	8826-0901-7YU	\$ 170,234.69



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Plan / Design	8826-0902-7YU	\$	217,067.19
Compliance	8826-0903-7YU	\$	4,411.01
Management	8826-0904-7YU	\$	93,375.00
Contingency	8826-0909-7YU	\$	25,000.00
IUMP Phase 2A & 3A	8826-A900-7YU	\$	4,029,423.00
IUMP Phase 3B	8826-B900-7YU	\$	16,576,002.94
Total		\$	23,995,104.11

Contributing Concessioner Insurance Settlement \$7,500,000
Fund Sources Recreation Fee \$43,724,508 – PMIS 978, 69463, 76587, and 85194



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956 – Repair Electrical Systems

Damage Assessment ID	E012	Completed
Damage Assessment Estimate	\$92,904	
Location	High Voltage Electrical Tower #58	
Damage Description	Two legs of the tower fell off the rock abutment, and a third leg collapsed. The tower is essentially being held up by the high voltage wires that supply electrical power to Yosemite Valley.	
Recommended Action in 1997	Work underway by PG&E to stabilize the tower.	
Damage Assessment ID	E014	Completed
Damage Assessment Estimate	\$397	
Location	Feeder #1111 to Big Oak Flat YT504 and YJ802	
Damage Description	Surface erosion exposed two vaults.	
Recommended Action in 1997	Compact and regrade as required.	
Damage Assessment ID	V003	Completed
Damage Assessment Estimate	\$128,770	
Location	Valley-Wide Power Distribution	
Damage Description	Electrical transformers and meters flooded and were filled with dirt and sand.	
Recommended Action in 1997	Clean and/or replace electrical transformers and meters. Clean meters (quantity: 47), replace meters and pedestals (quantity: 17), clean transformers (quantity: 10).	
Damage Assessment ID	V138	Completed
Damage Assessment Estimate	\$9,936	
Location	Valley Feeders #1 and #2 (Refer to E030, E031, E033)	
Damage Description	Severe erosion at manhole #30 has exposed conduits carrying both primary cables to Yosemite Valley.	
Recommended Action in 1997	Compact and regrade road shoulder surrounding manhole #30 as required. Work will be completed as part of the "Cookie" emergency stabilization.	
Damage Assessment ID	V139	Completed
Damage Assessment Estimate	\$20,866	
Location	Ahwahnee Cottages, Primary Feeder Switch	
Damage Description	Oil switch on 2.4 KV feeder is not functioning. Evidence of water infiltration in electrical room.	
Recommended Action in 1997	Replace switch.	



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Damage Assessment ID	W005	Completed
Damage Assessment Estimate	\$198,719	
Location	Under-River Electrical Lines to Lift Station #2	
Damage Description	Three #2 feeders, in conduit under the South Fork of the Merced River, were stretched and broken by flood waters. Approximately 1500 LF of cable were damaged when it was stretched.	
Recommended Action in 1997	Install temporary overhead service to lift station #2 until a new under-river crossing can be installed in the fall. This will require over 100' of concrete-encased conduit under the river; and three #2 15KV copper feeders (1500 LF).	

Team / Contractor	NPS Staff, Kennedy Jenks, Candelaria and Allison Sierra
Start Date / Completion Date	1997 / 2006

Summary of Work Accomplished Replaced high voltage tower #58. Repaired, covered and recompact exposed primary vaults in various locations along Highway 140. Replaced a primary switch serving Yosemite Valley. Cleaned and restored to service all underground distribution vaults. Repaired the newly discovered damage to an under-river primary electrical conduit, which serves the North Pines lift station.

Completed planning and design for the Wawona under-river crossing repair. Delayed further work while responding to legal claims against the *Merced River Plan*. Completed work on the Wawona under-river electrical lines.

Environmental Compliance CEs

Flood Funding	Package – 956	Account Number	Funds Obligated
	Construction	8826-0910-7YU	\$ 277,969.34
	Construction Management	8826-0911-7YU	\$ 15,684.41
	Plan / Design	8826-0912-7YU	\$ 1,661.09
	Wawona Electric	8826-A910-7YU	\$ 1,007,796.85
	Total		\$ 1,303,111.69

Contributing Fund Sources None



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957 – Repair Yosemite Valley Fuel Systems

Damage Assessment ID	V054	Completed
Damage Assessment Estimate	83,860	
Location	NPS Underground Fuel Storage Tanks	
Damage Description	Flooding damaged the underground fuel storage tanks at the Yosemite Creek Lift Station, the Clinic, and the Lower River Lift Station.	
Recommended Action in 1997	Repair underground fuel storage tanks and associated piping at each location.	

Team / Contractor	NPS Staff and Banks & Company
Start Date / Completion Date	1997 / 1998

Summary of Work Accomplished Pumped both tanks at Yosemite Creek and Lower River Lift Stations which had substantial amounts of water in the double wall annular space and the tank interiors. Pressure tested the Lower River tank to monitor for leaks. Excavated the tank and found it to be leaking at the filler box. Installed new plumbing and poured a new concrete cap in place. Replaced all monitoring modules for the Yosemite Creek Lift Station tank.

Completed follow-up investigation of the Valley Clinic tank, finding that it did not float from higher ground water levels as initially indicated, but instead was sound and will not require any work.

Environmental Compliance CE: 97168

Flood Funding	Package – 957	Account Number	Funds Obligated
	Construction	8826-0920-7YU	\$ 9,204.08
	Total		\$ 9,204.08

Contributing Fund Sources None



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958 – Repair White Wolf / Lake Eleanor Sewer Systems

Damage Assessment ID	M045	Cancelled
Damage Assessment Estimate	\$1,987,194	
Location	High Country White Wolf Sewer Line	
Damage Description	Based on visual observations of lower elevations, it is suspected that high country utilities (i.e. potable water systems and sewage disposal systems) sustained significant damage. Areas of extreme concern include the White Wolf sewer main, and the water and wastewater systems at five High Sierra Camps.	
Recommended Action in 1997	Further investigation will be completed in June 1997, or when area becomes more accessible.	

Damage Assessment ID	M056	Completed
Damage Assessment Estimate	\$101,546	
Location	Lake Eleanor Sewer Pipe and Retaining Wall	
Damage Description	Eight inch sewer line was destroyed when hillside collapsed.	
Recommended Action in 1997	Stabilize slope with retaining wall and replace sewer line (75 LF of sewer line, 50 LF of structural retaining wall, 30 CY of backfill).	

Team / Contractor	NPS Staff and Arber Associates
Start Date / Completion Date	1997 / 2006

Summary of Work Accomplished	Completed repairs for the Lake Eleanor sewer system. Repaired the Tuolumne Meadows wastewater treatment facility, including replacement of drywall and other finishing materials in the living quarters and treatment plant, and replacement of motors, lab equipment and treatment system blowers.
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Made temporary repairs to the White Wolf sewer line, began compliance documentation, planning and design of the permanent repairs. Awarded a contract for White Wolf sewer system value analysis, conducted a work session, completed follow-up reports for the value analysis, and conducted preliminary survey work and analysis of soils in proposed project areas. Prepared a final schematic design. Cancelled work on White Wolf sewer main due to wilderness boundary issues.

Environmental Compliance	CE: 97176
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Flood Funding	Package – 958	Account Number	Funds Obligated
	Construction		\$ 48,947.69
	Construction Management		\$ 30,712.74
	Plan / Design		\$ 2,227.12
	Compliance		\$ 106,560.49
	Total		\$ 188,448.04

**Contributing
Fund Sources** None



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959 – Wastewater Collection Investigation

Damage Assessment ID E006 Completed
Damage Assessment Estimate \$169,905
Location From Parkline to the Waste Water Treatment Plant, Approximately 2.5 Miles
Damage Description Flooded river inundated the open end of the trunk sewer, washing sand, rock and debris into the line. Approximately 2.5 miles were affected.
Recommended Action in 1997 Hydroflush/vacuum debris (13,000 LF). Video inspection (13,000). Slipline (16", 5000 LF).

Damage Assessment ID V263 Completed
Damage Assessment Estimate \$135,507
Location Force-Main Pigging, Pipe Inspection
Damage Description Excessive flows through the pipe have caused pipe and manhole leaks, where none were present before.
Recommended Action in 1997 Pig force main, then arrange for pipe inspection.

Team / Contractor NPS Staff, Kennedy Jenks and Pipeline Construction
Start Date / Completion Date 1997 / 2003

Summary of Work Accomplished Water flushed and video inspected 13,000 linear feet of main sewer lines in El Portal. Water-flushed approximately 25,000 linear feet of main and branch lines in Yosemite Valley. Slip-lined approximately 6,000 linear feet of main sewer lines to repair damage. Repaired over 250 manholes and sealed them to prevent additional infiltration.

Plugged abandoned lines to isolate them from the collection system. Completed final plans and specifications for cleaning and inspection of the Yosemite Valley force main. Began an alternative bacteria treatment of the force main to remove grease, evaluated the overall effectiveness of the treatment, and determined that non-bacterial cleaning is most appropriate.

Completed design of a non-invasive condition assessment of the Yosemite Valley force main.

Environmental Compliance CEs: 97160 and 97020



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Flood Funding	Package – 959	Account Number	Funds Obligated
	Construction	8826-0940-7YU	\$ 320,161.99
	Construction Management	8826-0941-7YU	\$ 6,057.39
	Plan / Design	8826-0942-7YU	\$ 114,623.79
	Total		\$ 440,843.17
Contributing Fund Sources	None		



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960 – Repair Concession Utilities

Damage Assessment ID V156 Completed
Damage Assessment Estimate \$39,744
Location Underground Storage Tank
Damage Description Flood caused damage to underground storage tanks and boiler rooms in various Yosemite Valley locations.
Recommended Action in 1997 Restore the underground storage tanks and boiler rooms to pre-flood conditions. Pump underground storage tanks and the ten double-containment areas. Pump and clean boiler rooms. Check the nine equipment systems.

Damage Assessment ID V257 Completed
Damage Assessment Estimate \$397,439
Location Yosemite Lodge Land Assignment Area
Damage Description Sand infiltrated the sewer collection system. Water flooded the secondary electrical distribution systems. Propane lines and regulators were also damaged.
Recommended Action in 1997 Restore the underground storage tanks and boiler rooms to pre-flood conditions. Pump underground storage tanks and the ten double-containment areas. Pump and clean boiler rooms. Check the nine equipment systems.

Team / Contractor NPS Staff, Concessionaire, Butts Construction, Roy’s Sewer Service and Banks & Company
Start Date / Completion Date 1997 / 1999

Summary of Work Accomplished Water-flushed all sewer lines in Yosemite Valley. Slip-lined sewer lines in Curry Village, North Pines, Maintenance/Admin area, Village Store, Tecoya and the line between the Ahwahnee and Camp Six. Reburied exposed sewer lines at Stoneman Bridge and accomplished basic water leak repairs. Completed 100% construction documents for infrastructure replacement on flood-related development at Yosemite Lodge. Revised construction documents due to a lawsuit over the NEPA process. Negotiated with a minority-owned small business contractor and awarded the Lodge main sewer line replacement. Prevailed on a legal challenge regarding the Lodge main sewer line project. Completed construction on the Lodge main sewer line.

Environmental Compliance CEs: 97172 and 97174



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Flood Funding	Package – 960	Account Number	Funds Obligated
	Construction	8826-0950-7YU	\$ 745,500.00
	Construction Management	8826-0951-7YU	\$ 35,008.37
	Plan / Design / Compliance	8826-0952-7YU	\$ 49,435.02
	Total		\$ 829,943.39
Contributing Fund Sources	None		



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961 – Repair Water & Wastewater Treatment Facilities – El Portal

Damage Assessment ID	E005	Completed
Damage Assessment Estimate	\$22,853	
Location	Near Parkline on Highway 140	
Damage Description	Drop manhole damaged when river inundated sewer line.	
Recommended Action in 1997	Replace drop manhole. Install temporary bypass. Demolish existing drop manhole. Install new 48" manhole. Complete sewer line connection.	
Damage Assessment ID	E010	Completed
Damage Assessment Estimate	\$157,982	
Location	Sewer Main on El Portal Road, Cascades, the "Cookie"	
Damage Description	The 12" sewer main and three 6" PVC conduits were completely washed out with El Portal Road.	
Recommended Action in 1997	Replace sewer main and conduits. Complete as part of emergency "Cookie" stabilization. Demolish of damaged sewer pipe and concrete casing. Install 12' DIP sewer. Install of 6" electrical and telephone conduit. Install concrete encasement. Trench an for telephone conduit. Install one electrical primary pull box.	
Damage Assessment ID	E039	Completed
Damage Assessment Estimate	\$56,238	
Location	Well #5	
Damage Description	High water flooded the well house, damaging the building and pumps (pumping erratically).	
Recommended Action in 1997	Replace pumps, motors and motor control center. Replace pump casing and well head. Demolish and replace piping. Complete wiring and control changes.	
Damage Assessment ID	E046	Completed
Damage Assessment Estimate	\$56,238	
Location	Waste Water Treatment Plant Effluent Outfall	
Damage Description	The effluent discharge line at the El Portal WWTP was destroyed in the loss of Foresta Road. The sewer cleanout, six diffuser ports and the monitoring gauge in the Merced River were destroyed. Systems required for NPDES permit.	
Recommended Action in 1997	Re-establish effluent line and discharge diffuser ports. Replace gauge and re-survey river channel. Requires: 16" CIP trenching; 3' x 3' trenching; 6 river diffusers; one cleanout (SS); headwall; and riprap.	



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Damage Assessment ID	V134	Completed
Damage Assessment Estimate	\$3,577	
Location	Cascades Well Pumphouse	
Damage Description	High water flooded the pumphouse and the valve pit outside of the pumphouse. Chlorinator and walkway were washed away. Water system may have been polluted by flood water.	
Recommended Action in 1997	Clean pumphouse. Clean out valve pit, and replace chlorinator. Bring in 5 CY of gravel for walk. After repairs to house #818, flush water system with chlorinated water.	

Team / Contractor	NPS Staff, FHWA Staff and Allison Sierra
Start Date / Completion Date	1997 / 1998

Summary of Work Accomplished Completed all major components for this package. Reconstructed the 300 linear feet of the sewer main at the "Cookie" slide area in conjunction with temporary repairs of El Portal Road.

Reconstructed the effluent outfall from the El Portal wastewater treatment plant also in conjunction with road repair work on Foresta Road. Replaced the manholes at the park boundary and Wildcat Creek.

Completed repairs to the Cascades Well Pumphouse and Well 5. Completed all minor finish details of the well house projects.

Environmental Compliance CEs: 97031, 97030, 97162, 97104 and 97169

Flood Funding	Package – 961	Account Number	Funds Obligated
	Construction	8826-0960-7YU	\$ 197,592.54
	Plan / Design / Compliance	8826-0962-7YU	\$ 17,077.30
	Total		\$ 214,669.84

Contributing Fund Sources None



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962 – Repair Abbieville Water & Sewer

Damage Assement ID	E002	Completed
Damage Assement Estimate	\$141,886	
Location	Abbieville Water Main	
Damage Description	A 6" CIP water line that connected Abbieville to the El Portal water system was destroyed by the flood. The water line crossing under the Merced River was also destroyed.	
Recommended Action in 1997	Replace water line along Hwy 140 and connect to El Portal water system at bridge: 6" CIP waterline (1600 LF); 6" gate valve and box (six each); Concrete encasement (3600 CF).	
Damage Assement ID	E003	Cancelled
Damage Assement Estimate	\$403,997	
Location	Abbieville Research Center Tie-In	
Damage Description	Flooding destroyed a 4" CIP sewer force main from Abbieville lift station to trunk sewer, as well as the encasement.	
Recommended Action in 1997	Replace force sewer main along Hwy 140 and cross river on El Portal Bridge: 4" CIP sewer line (3100 LF); 4" cleanouts (six each); concrete encasement (7000 CF).	
Team / Contractor	NPS Staff, Butts Construction and U.S. DOJ Staff	
Start Date / Completion Date	1997 / 2001	

Summary of Work Accomplished Due to scheduled removal of the trailer village after the year 2000, decided to replace the under-river crossing in kind rather than create a more costly permanent reroute. Reconstructed the under-river crossing of the sewer force main and water main for the Abbieville, including excavating in the riverbed to install two ductile iron pipelines, encasing both pipelines in concrete and anchoring them, and backfilling and landscaping the entire crossing and adjoining embankments to match existing conditions.

Determined that the Abbieville Research Center sewer disposal system could not be repaired cost-effectively; abandoned this facility.

Environmental Compliance CE: 97027



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Flood Funding	Package – 962	Account Number	Funds Obligated
	Construction	8826-0970-7YU	\$ 248,948.60
	Construction Management	8826-0971-7YU	\$ 5,964.88
	Plan / Design	8826-0972-7YU	\$ 29,981.72
	Compliance	8826-0973-7YU	\$ 209.69
	MRP-Abbeville Sewer	8826-0977-7YU	\$ 50,000
	Total		\$ 335,104.89

**Contributing
Fund Sources** None



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963 – Repair Wawona Water & Wastewater Distribution Systems

Damage Assement ID	W001	Completed
Damage Assement Estimate	\$129,168	
Location	Wawona Water System Intake	
Damage Description	Water system intake was damaged by flood waters, including intake structure, dam, Forest Road access, service road to lift station #2, and waste line. Intake is plugged by silt deposits. This will require river disturbance to repair.	
Recommended Action in 1997	Repair water system intake, dam, and intake structure. Lower intake structure to 12" to prevent future damage. Replace intake screen. Clean and repair water line. Repair Forest Road access. Repair service road to lift station.	
Damage Assement ID	W002	Completed
Damage Assement Estimate	\$115,257	
Location	Wawona Effluent Sprayfield	
Damage Description	The effluent sprayfield system was damaged by flood waters. Access bridges, one controller, the electrical system, the water distribution system, a transformer screen fence, and irrigation systems were damaged. Numerous trees toppled in the flood.	
Recommended Action in 1997	Repair or replace three damaged bridges and one arch bridge over double culvert. Relocate controller out of flood plain. Repair electrical system, water distribution system. transformer screen fence, and irrigation system. Clean up / remove debris and trees.	
Damage Assement ID	W019	Completed
Damage Assement Estimate	\$11,724	
Location	Wawona Campground Waterline	
Damage Description	Waterline at Wawona Campground was damaged by flood waters.	
Recommended Action in 1997	Replace 300 LF of 4" waterline. Trench 300 LF. Replace three valves.	
Damage Assement ID	W022	Completed
Damage Assement Estimate	\$69,552	
Location	Wawona Waste Water Treatment Plant	
Damage Description	Staff gauge washed away at the South Fork of the Merced River at the WWTP effluent line. This gauge is required to monitor river flow, in order to meet NPDES discharge permit requirements.	
Recommended Action in 1997	Replace cable. Anchor points and gauge at existing location. Will require recalibration and a survey of the channel.	



Project Completion Reports

Yosemite National Park

National Park Service
U.S. Department of the Interior

Team / Contractor NPS Staff and USGS Staff

Start Date / Completion Date 1997 / 1998

Summary of Work Accomplished Completed the water system intake structure and effluent sprayfield repairs. Replaced the campground water line. Replaced the river staff gauge (performed by the US Geological Survey). Package completed.

Environmental Compliance CEs: 97186, 97180 and 97177

Flood Funding	Package – 963	Account Number	Funds Obligated
	Construction	8826-0980-7YU	\$ 138,616.32
	Construction Management	8826-0981-7YU	\$ 17,665.60
	Plan / Design	8826-0982-7YU	\$ 14,606.60
	Total		\$ 170,888.52

Contributing Fund Sources None

Yosemite National Park
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