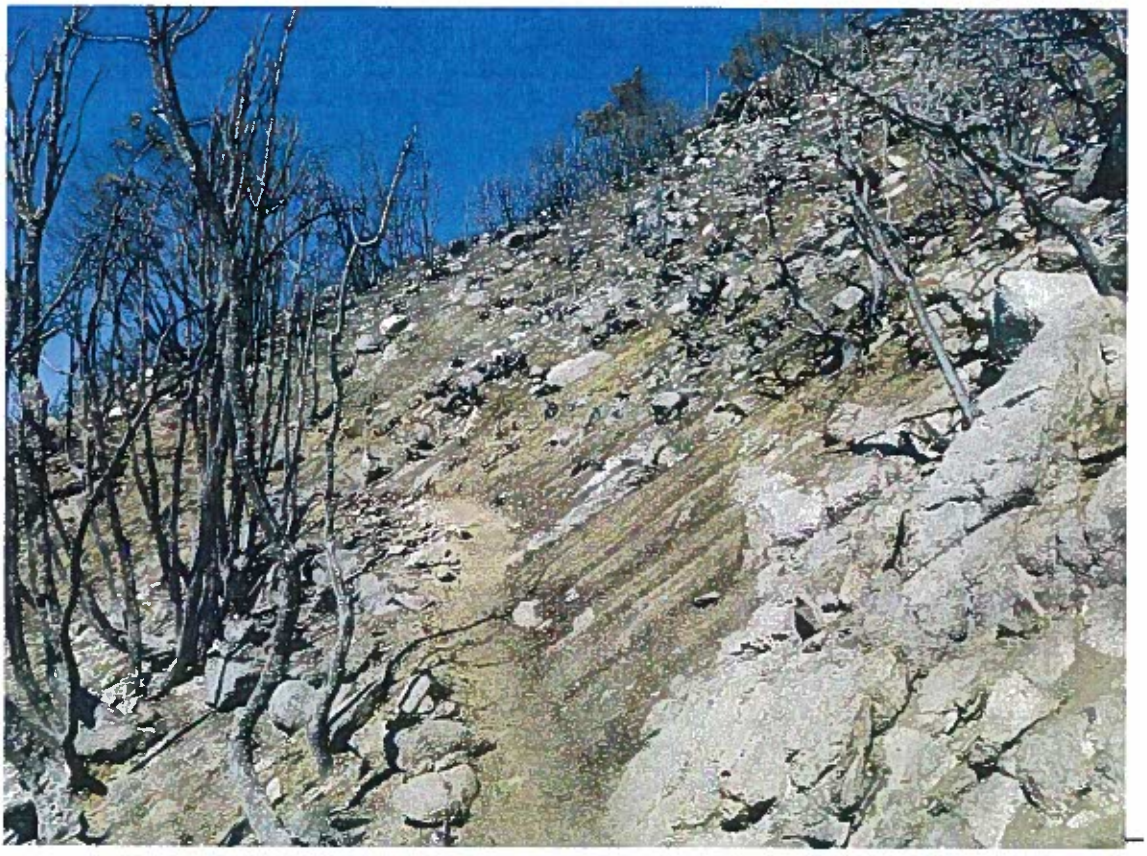
USDA-FOREST SERVICE

FS-2500-8 (6/06)
Initial Request
Date of Report: October 8, 2017

BURNED-AREA REPORT
(Reference FSH 2509.13)



PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report #____
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Wilson Fire

B. Fire Number: CA-ANF-004552

C. State: CA

D. County: Los Angeles County

E. Region: 05

F. Forest: Angeles National Forest

G. District: 52

H. Fire Incident Job Code: P5LFXO17

I. Date Fire Started: October 17, 2017

J. Date Fire Contained: October 27, 2017

K. Suppression Cost: $4 million

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 2 miles Hand Line, 14 miles of dozer line on FS
2. Fireline seeded (miles): None
3. Other (identify): 10 mi Road Treated as Line, 45 miels of Road maintained

M. Watershed Number: HUC 12: 180701050301 (Eaton Wash), 180701050302 (Santa Anita Wash-Rio Hondo)

N. Total Acres Burned: 50
NFS Acres (50) State (0) Private (0)

O. Vegetation Types: Mixed Chaparral, Mixed Conifer Oak Woodlands, Big Cone Douglas Fir Forest

P. Dominant Soils: XXX

Q. Geologic Types: XXX

R. Miles of Stream Channels by Order or Class: XXX

S. Transportation System

Trails: XXX miles Roads: XXX miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 4 (unburned), 35 (low), 10 (moderate), 1 (high) estimate

B. Water-Repellent Soil (acres): XXX

C. Soil Erosion Hazard Rating (acres):
XXX (low) XXX (moderate) XXX (high) XXX (very high)

D. Erosion Potential after fire: XXX tons/acre Erosion potential before fire: XXX tons/acre

E. Sediment Potential: XXX cubic yards/square mile.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): XXX

B. Design Chance of Success, (percent): XXX

C. Equivalent Design Recurrence Interval, (years): XXX

D. Design Storm Duration, (hours): XXX

E. Design Storm Magnitude, (inches): XXX

F. Design Flow, (cubic feet / second/ square mile): XXX

G. Estimated Reduction in Infiltration, (percent): XXX

H. Adjusted Design Flow, (cfs per square mile): XXX

PART V - SUMMARY OF ANALYSIS

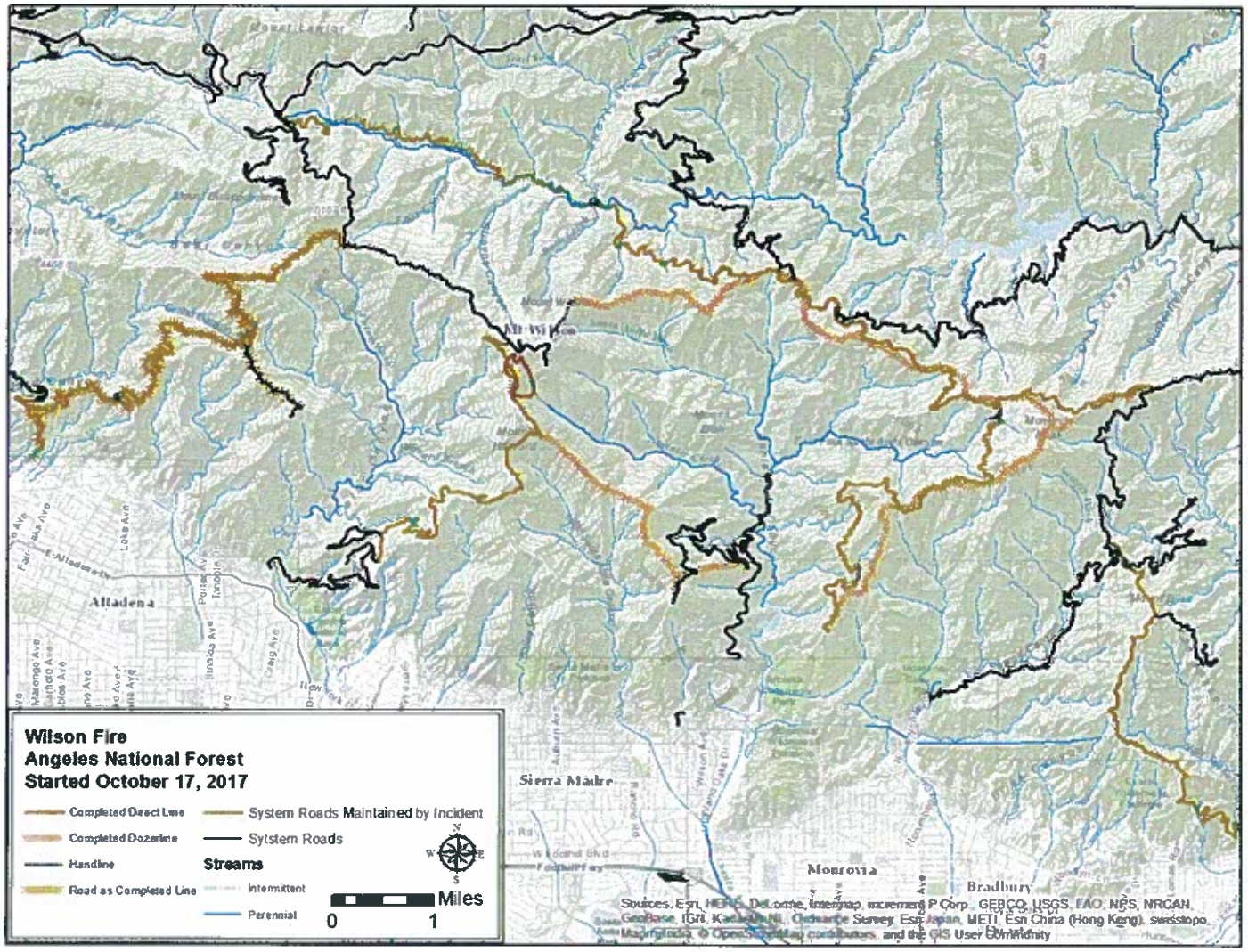
Background

The Wilson Fire began on Friday October 17, 2017 around 3:43 am downslope from Mount Wilson circle near the Mount Wilson Observatory. The fire moved upslope toward the Observatory and communication sites.

Though the fire moved slowly the next week approximately 400 personnel remained on staff and applications of retardant continued due to record breaking temperatures and Santa Ana winds.

Much of the burn area burned at a low and moderate soil burn severity. Some hydrophobic soil in the moderate and high areas will increase water runoff. The slope consists of large cobble to small boulders surrounded by unconsolidated soils developed from disintegrated granite. Dry ravel has begun to cover portions of the trail. A loss of stabilizing vegetation around rocks will result in adjustment of rock during rain events. Rock and mud are expected to mobilize onto the trail and road which traverse the burned area.

Figure 1 Fire Location



A. Describe Critical Values/Resources and Threats:

The risk matrix below, Exhibit 2 of Interim Directive No.: **2520-2010-1**, was used to evaluate the Risk Level for each value identified during the Assessment:

Probability	Magnitude of Consequences

of Damage or Loss	Major	Moderate	Minor
	RISK		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Loss of Water Control

The Wilson Fire occurred within Eaton Wash and Santa Anita/Rio Hondo 6th level HUCs. The fire burned 50 acres on the ridgeline, and follows the riparian area for Winter Creek is intermittent below the fire, but within 1/10 of a mile becomes perennial and flows into the perennial Santa Anita Wash. Sedimentation and turbidity in Winter Creek will increase after storms below the fire.

Sediment and peak flow increases have the potential to cause a cumulative debris flow and flooding effect. These effects have varying potentials depending on the slopes involved, and the soil burn severity. This potential for flooding and debris flow has the added risk of causing erosion to Forest Service and roads and trails, Southern California Edison power lines buried in the road, and drainage structures along the road.

Values at Risk and Risk Matrix Table[1]

Category	Value at Risk	Potential Threats/hazard type	Ownership	Probability of Damage	Magnitude of Consequences	Risk	Forest Service Treatment Method
Property/Life	Mt Wilson Trail	Loss of tread due to increase flow on slope, mud/rocks/debris across trail cause risk to safety of hikers and trail stability.	FS	Likely (P) Possible (L)	Moderate Major	High Very High	Water Bar Trail, Warning Signs, Closure prior to precipitation events.
Property/Life	Mt Wilson Toll RD from Mt Wilson to Mt Harvard & Private Property/ Southern California Edison Power lines in Road	Loss of road due to increase flow on slope, mud/rocks/debris across road causing risk to vehicles on road and road stability. Damage to Power lines in the Road, loss of access to private property & communication sites	FS/SUP	Likely	Major	Very High	Clean over the side drains, Storm Patrol on the Road, clear debris off the road after storms and restore drainage. Closure of road prior to precipitation events.

Category	Value at Risk	Potential Threats	Owner ship	Probability of Damage	Magnitude of Consequences	Risk	Forest Service Treatment Method
Natural Resource Values	Native Plant Recovery/ Soil Productivity	Invasive/noxious weeds	FS	Very Likely	Moderate	Very High	Detection and eradication. Dozer lines along the road and drainages specifically. No weed wash of heavy equipment prior to work on the fire the fire. Federally listed species Astragalus in proximity of dozer line.
Natural Resource Values	Native Plant Recovery/ Soil Productivity	OHV Trespass, Erosion	FS	Likely	Moderate	High	Storm Patrols, OHV barriers if needed
Natural Resource Values	Water Quality Winter Creek/Santa Anita Wash	Ash, sediment, debris, large woody debris	FS	Possible	Minor	Low	

Note: Only values at risk greater than intermediate will be addressed below. County and State property requires interagency coordination.

Threats to Life and Property

Mt. Wilson Trail through fire from Mt. Harvard to Mt. Wilson (0.50 miles): Likely damage, Moderate consequences, High Risk.

This is a popular hiking trail from the Urban areas to Mount Wilson (Arcadia, Pasadena, etc). Users are at some risk from unstable rocks after the fire. Erosion and washouts are likely occur on the trail. Rocks and sediment on the steep slope has been destabilized by the loss off vegetation and burned root systems which were holding many of the rocks in place. During storm events this area will be dangerous to hikers. The tread of the trail itself needs drainage features to prevent increased water flow from traveling along the trail. Property: Magnitude of consequences to the trail surface and surrounding areas from erosion, compaction, and new trail creation is estimated to be moderate. Risk is assessed as High. Life: Probability of damage to hikers is possible, but magnitude of consequences would be major so the risk to life is very high.

BAER team recommends temporary closure of the trail during precipitation events, improved drainage on the trail.

Threats to Ecosystem Stability/Soil Productivity

Within the fire perimeter, burn severity was moderate to low. However, due to the concern from Santa Ana winds and record high temperature 14 miles of Dozer line were put in surround the fire. The redbox/Rincon road is an OHV route by permit through the forest service. Posts with cord were placed across trails to prevent dozer access. OHV trespass on routes could provide increased risk for invasive species and would result in continued loss of top soil, slowing regrowth of vegetation which would protect the soil.

Probability of Damage or Loss: Likely. This determination is due to the change in watershed response causing sheet and rill erosion of topsoil. There is some potential for unauthorized off-highway vehicle use within the dozer lines around the burn that could be detrimental to vegetation recovery, encouraging noxious weed invasion.

Magnitude of Consequence: Moderate. This determination is due to the change in watershed response causing erosion of topsoil in a fire-adapted ecosystem.

Risk Level: High. The BAER team recommends installation of OHV barriers if needed and signs designating the area is a fire recovery site to encourage vegetation recovery, limit weed invasion and protect soil structure.

Because of the steep slopes, and size of the fire, large rock content in the soil, and wind presence other treatments to reduce erosion risks are neither economically feasible nor effective.

Threats to Native Vegetation Recovery from Increase in Noxious Weed Populations

An emergency exists with respect to vegetative recovery as a result of the threat of post-fire weed introduction and spread. The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish large and persistent weed populations. In addition, it is highly likely that existent weed infestations along fuelbreaks will increase in the burn area due to their accelerated growth and reproduction and a release from competition with natives. These weed populations will negatively affect the structure and habitat function of native plant communities within the burn area, unless they are treated in the first year post-fire, before they have a chance to metastasize. Approximately 14 miles of dozer line were also constructed outside and within the burn perimeter. In addition to causing an increase in weed invasion, the disturbances caused by dozer lines are expected to create accelerated erosion and soil compaction that may also inhibit the recovery of native plant populations. If invasive weeds are not controlled, they pose a threat to the success of SCE restoration projects found throughout the dozer and hand lines.

Probability of Damage or Loss: Very Likely. This determination is due to the change in watershed response causing sheet and rill erosion of topsoil. There is also a potential for unauthorized off-highway vehicle use within the burn area and dozer lines that will be highly detrimental to vegetation recovery and encourage noxious weed invasion.

Magnitude of Consequence: Major. This determination is due to the high potential for vegetation type conversion to non-native annual grasslands and forbs across the burn area, most especially along dozer lines.

Risk Level: Very High. The BAER team recommends early detection and rapid response weed surveys to locate and treat high priority infestations.

Threats to Cultural Resources

No known threats to cultural resources.

B. Emergency Treatment Objectives:

• Provide for Public Safety– Ensure communication of potential post fire values at risk has occurred. Reduce threat to life and safety by closing hazardous areas and roads until watershed stabilization has occurred and/or the threats/hazards have been removed. Further reduce threat to life and safety by installing and maintaining educational/safety signing in hazardous areas and roads until watershed stabilization has occurred and/or the threats/hazards have been removed.

• Limit Damage to Property- Roads and trails within and downstream of the burn area are at greater risk from flash flooding and sedimentation after the fire. The treatment objective is to increase the awareness of the public recreational users, permitees, and private land owners who use the roads and trails of the potentially hazardous conditions resulting from the fire

• Invasive Plants - Reduce the potential for impaired vegetative recovery and introduction/spread of invasive non-native plants by conducting detection /rapid response surveys and preventing unauthorized OHV use.

• Road Treatments – Objective is to reduce the threat to life and safety for road and trail users by implementing closures and installing hazard signs and to complete storm patrols and emergency repairs..

• Limit loss of soil productivity –Objective is to decrease rates of runoff water and erosion by conducting weed detection and rapid response plans and OHV barrier installation.

• Noxious Weeds - Reduce the potential for impaired vegetative recovery and introduction/spread of noxious weeds.

• Unauthorized Off-Road Vehicles- Limit loss of soil productivity and vegetative recovery due to unmanaged OHV use.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land **XXX** % Channel **XXX**% Roads/Trails **XXX** % Protection/Safety **XXX** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	XXX	XXX	XXX
Channel	XXX	XXX	XXXX
Roads/Trails	XXX	XXX	XXX
Protection/Safety	XXX	XXX	XXX

E. Cost of No-Action (Including Loss): XXX

F. Cost of Selected Alternative (Including Loss): XXX

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[] Geology	[ ] Range	[ ] Recreation
[ ] Forestry	[] Wildlife	[ ] Fire Mgmt.	[] Engineering	[] Lands
[ ] Contracting	[ ] Ecology	[X] Botany	[] Archaeology	[ ] Hazmat
[] Fisheries	[ ] Research	[ ] Landscape Arch	[x] GIS	

Team Leader: Kelsha Anderson: Cleveland National Forest

Email: kelshaanderson@fs.fed.us Phone: (626) 574-5257 FAX: (626) 574-5207

Core Team
Kelsha Anderson (Hydrology/Soils)
Katie VinZant (Botany)
Janet Nickerman (Botany)
Lauren Quon (Botany)

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

Noxious Weed Detection and Rapid Response

Weed detection surveys and rapid response eradication treatments are to determine whether ground disturbing activities related to the Wilson Incident and the fire itself have resulted in new or the expansion of existing noxious weed infestations. With 14 miles of dozerline, 2 miles of handline, and 10 miles of road utilized for the fire it is expected that new and expanding weed infestations will proliferate in and along these vectors if left unchecked, eventually leading to vegetation type conversion. Surveys and rapid response eradication treatments will begin in 2018 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits will be required during the growing season. If timing is such that all the target species are detectable/treatable in one visit, the actual costs would be lower than displayed below. Completion of surveys in dozer lines, roads, staging areas, safety zones, and known invasive plant populations would be the first priority. The second survey priorities would be along handlines and drop points. Surveys of the general habitats in the burned area would be the lowest priority. Detailed weed detection survey guidelines are attached in Appendix A.

Weed Detection and Rapid Response Cost

Item	Unit	Unit Cost	# of Units	Cost
1 GS-11 botanist	Days	$400	2	$800
4 GS-7 weed technicians	Days	$900	10	$9,000
Supplies	Each	$1,000	1	$1,000
Vehicle gas mileage	Miles	$0.55	1800	$990
Vehicle Lease	Month	$600	0.50	$300
			Total Cost	**$12,090**

Protection/Safety Treatments:

Interagency Coordination

Interagency coordination started during the fire and continued throughout the BAER Assessment and is a critical component to the BAER process. Continuing this coordination by providing the BAER Assessment Report, specialist reports and attending meetings is anticipated.

Interagency Team Cost

Item	Unit	Unit Cost	# of Units	Cost
BAER Coordinator/Hydrologist	Days	$450	1	$450
Vehicle mileage	Miles	$0.55	100	$55
			Total Cost	**$505**

Barriers for Unauthorized Off Road Vehicle Use and Protection Monitoring

Unauthorized access is a threat to the burned watershed due to the dozerlines created for the fire. The ANF is an urban Forest with high use levels. The challenge for the ANF is managing the high number of users who gain unauthorized access to the Forest by driving/riding/entering through or around a locked gate or closure sign. This type of unmanaged use can cause damage to natural resources. In order to manage OHV potential access onto dozerlines and the burned area, BAER team requests funding to purchase and install no-dig barriers, which have been proven to be effective and cost efficient barriers on the ANF in past fires.

Through past BAER experience, the ANF has determined that signage, barriers and other hard closures that are installed to discourage soil disturbance and assist in allowing natural vegetative recovery are not effective by themselves. Patrolling within and adjacent to the burn area is needed to enforce the closure and deter unauthorized access, vandalism, and damage to National Forest System lands. The following treatment is needed.

OHV Barrier Installation and Cost

Item	Unit	Unit Cost	# of Units	Cost
No-digs barrier materials	Each	$37	10	$370
Installation Supplies	Each	$100	1	$100
Labor (4 GS 5 Techs)	Days	$800	1	$800
GS-5 OHV - FPO	Day	$225	10	$3,375
Mileage	Miles	$0.55	400	$220
			Total Cost	**$4,865**

Human Life and Resource Protection (Fire Area and Trails Closure/Warning Signs)
To ensure safety for Forest visitors and protection to Forest resources during the recovery period, fire area closure and warning signs will be placed at trailheads for Mt. Wilson Trail and Mt. Wilson Toll Road. It is likely signs will need to be checked and replaced periodically due to vandalism.

Closure and Hazard Signage (Trail & Roads)

Item	Unit	Unit Cost	# of Units	Cost
GS-11 Recreation Officer	Day	$360	1	$360
2 GS-5 Recreation Technicians/ FPO	Days	$440	6	$2640
Trails warning signs (12"x 18") Hi density plastic.	Each	$6	10	$60
Area closure signs (14" x 20")	Each	$40	2	$80
Posts and hardware	Each	$20	12	$240
Vehicle mileage	Miles	$.55	400	$220
Vehicle FOR	Month	$350	0.5	$175
Total Cost				**$3,775**

Road and Trail Treatments – Storm Patrol

Road: This treatment consists of patrolling 1.0 mile of affected road in the burn area from Mount Wilson to Mount Harvard and clearing rock and debris fall during and after each rainfall event to reduce the potential for injury to the public and Forest personnel traveling along the road. Patrols would check the road conditions when safe for travel, and if needed deploy a backhoe, dozer, or other heavy equipment to assist in the removal of rock and debris.

Road Treatment

Item	Unit	Unit Cost	# of Units	Cost
Storm Patrol	Day	$300	5	$1,500
Heavy Equipment/Overhead	Day	$1500	5	$7,500
Mileage	Mile	$0.55	400	$210
GS-11 Road Engineer to prepare contract	Day	$360	1	$360
			Total Cost	**$9,570**

Trail: This treatment consists of placing water bars on 0.5 miles of trail to prevent loss of the trail tread due to water and debris across the trail. Work on the trail will be completed with volunteers with a forest service employee to facilitate and direct the work.

Trail Treatment

Item	Unit	Unit Cost	# of Units	Cost
GS 11 Employee	Day	$360	2	$720
Mileage	Mile	$0.55	200	$110
Supplies	Item	$500	1	$500
			Total Cost	**$1330**

Part VI – Emergency Stabilization Treatments and Source of Funds **Initial**

Click red icons for notes.	NFS Lands					Other Lands				Money Left
Line Items	**Units**	**Unit Cost**	**# of Units**	**BAER $**	**Spent $**	**# of Units**	**Fed $**	**# of Units**	**Non Fed $**	**Total $**
A. Land Treatments										
NX Weed Det. Surv.	Ea	2,000	1.0	$12,090	$0		$0		$0	$0
Subtotal Land Treatments				$12,090	$0		$0		$0	$0
B. Channel Treatments – none										
				$00	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails- Storm Patrol										
Subtotal Road & Trails				$10,900	$0		$0		$0	$0
D. Protection/Safety										
Interagency Coordination	ea	$505	1	$505	$0		$0		$0	$0
Closure & Hazard Signage	ea	$3,775	1	$3,775	$0		$0		$0	$0
OHV Barriers	ea	$4,865	1	$4,965	$0		$0		$0	$0
Subtotal Protection				$9,145	$0		$0		$0	$0
E. BAER Evaluation										
Assessment Team	0520	H5BAER	---	---	$4,000	---	$0	---	$0	$0
	---	---	---	---	$0	---	$0	---	$0	$0
Subtotal Evaluation				---	$4,000	---	$0	---	$0	$0
F. Monitoring										
Subtotal Monitoring				0	$0		$0		$0	$0
G. Totals				**$32,135**	**$4,000**		**$0**		**$0**	**$0**
Previously approved						Comments:				
Total for this request				**$32,135**						

PART VII - APPROVALS

1. _____ */s/ Robert J. Garcia (for):*
Forest Supervisor (signature) Date _____

2. Bernie T. Grant
Regional Forester (signature) Date 11/14/2017