USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: July 5, 2006

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:Brins

B. Fire Number:COF-000091

C. State: AZ

D. County: Coconino and Yavapai

E. Region:03

F. Forest: Coconino

G. District: 06 (Red Rock)

H. Fire Incident Job Code:P3CQ01

I. Date Fire Started:06/18/06

J. Date Fire Contained: 06/28/06

K. Suppression Cost: $6,335,000 (estimated)

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 7
2. Fireline seeded (miles): 0
3. Other (identify):

M. Watershed Number: 1506020205

N. Total Acres Burned: 4317
NFS Acres(4317) Other Federal ( ) State ( ) Private ( )
Note – 4000 acres in wilderness

O. Vegetation Types: Steeper slopes greater than about 40 percent are dominated by chaparral community types including turbinella oak/mountain mahogony/manzanita. Slopes less than about 15% on elevations greater than 6,800 feet are dominated by ponderosa pine/gambel oak and on elevations less than about 6,800 feet by pinyon/juniper/turbinella oak. Steep escarpments on the north side of the fire are dominated by ponderosa pine on southern aspects and /mixed conifer (Douglas Fir) on north aspects.

P. Dominant Soils: Steep slopes (greater than about 40%) are dominated by Typic Ustochrepts, loamy-skeletal, mixed mesic, moderately deep, very stony sandy loams, Typic Ustorthents, sandy-skeletal, mixed, mesic, moderately deep, extremely bouldery loamy fine sands, Typic Argiustolls, Mollic Eutroboralfs, and Typic Dystrochrepts, moderately deep, very stony to extremely bouldery sandy loams (TES units 470, 471, and 555 with large amounts of rock outcrops). Soils are predominantly coarse to medium textured and derived from sandstone with bedrock commonly occurring at depths of 20 – 40 inches. Appoximately 2/3rds of the soils have high erosion hazard. About 1/3rd of the soils have moderate or high burn severity and are hydrophobic.

Moderate sloped soils (15 – 40 %) are minor in extent (TES units 584 and 458, 463, 474) and have soil textures ranging from moderately coarse to fine.

Slopes less than about 15 percent are dominated by clayey soils on basalt parent materials and are Typic Argiborolls and Mollic Eutroboralfs, fine or clayey-skeletal, montmorillonitic, cobbly clay loams (TES units 45, 462, 578, and 582).

The Project Record contains burn severity and TES maps.

Q. Geologic Types: Supai and Coconino sandstone, Quaternary basalt cap

R. Miles of Stream Channels by Order or Class: Ephemeral - 10

S. Transportation System

Trails: 9.5 miles Roads: 0 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 700 (low) 300 (moderate) 1,200 (high)
Note: 900 (unburned) and 1,200 (rock outcrop).

B. Water-Repellent Soil (acres): 1,500

C. Soil Erosion Hazard Rating (acres):
100 (low) 1,300 (moderate) 2,900 (high)

D. Erosion Potential: 12 tons/acre

E. Sediment Potential: 610 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3

B. Design Chance of Success, (percent): 50

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 2.0

F. Design Flow, (cubic feet / second/ square mile): 520 (pre-fire)

G. Estimated Reduction in Infiltration, (percent): 35

H. Adjusted Design Flow, (cfs per square mile): 1,000 (post-fire)

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

US highway 89A, - primary road through Oak Creek Canyon connecting Sedona and Flagstaff. Debris laden increased flows capable of blocking and/or washing out culverts under the highway.

Residences and businesses between burned areas and Oak Creek Canyon. Some residences and business are located west of Highway 89A and immediately adjacent to the eastern perimeter of the fire. These areas will be prone to increased risk from rockfall, debris flows, and increased sediment laden runoff.

County Emergency Response (fire station) – the above area includes a County fire station

Forest users – rockfall, debris flows and sediment laden rapiding peaking runoff events from summer monsoonal events pose a threat to users within and immediately downstream of the burned area. Primarily along a 3.7 miles stretch of US Highway 89A.

Water quality – Oak Creek – a State designated “unique water”. Runoff containing ash and fine to coase grained sediments will be transported into Oak Creek during the short-term before recovery occurs.

Forest facilities – a campground, a day use picnic area and a visitor center with associated infrastructure are now susceptable to increased threats to forest users and damage to these support facilities.

Soil productivity - a limited number of deeper productive soils are located outside the wilderness.

Threatened and Endanged Species – narrow headed garter snake population located immediate downstream (Oak Creek) of burned area.

B. Emergency Treatment Objectives:

To reduce threat of human injury or fatality from debris slides through facilitation of timely placement of ALERT or similar early warning systems along US Highway 89A and near businesses and residences immediately adjacent to the eastern perimeter of the burned area.

To reduce threat of human injury and fatality from debris slides through full closure of the burned area including a campgound, day use area, visitor center and all trails within or provide access into the burned area.

Reduce road and culvert loss due to increases bulked potential water flows into adjacent Oak Creek. Accomplished by reducing potential blocking of culverts along 3.7 miles of US Highway 89A by removing existing floatable downed woody debris from tributary channels within the burned area.

Protect Forest infrastructure facilities (pump houses, etc) from post fire runoff events to the extent pratical.

Protecting existing sensitive, wildilfe individuals. The USGS and USFWS to lead collection and relocation of snakes that may be directly effected by post fire runoff. No BAER involvement.

Reduce soil loss and ash and sediment deposition to tributary to Oak Creek. Maintain soil and vegetative productivity in deep soils adjacent to Oak Creek. Water quality in Oak Creek will still be affected.

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

Land **70** % Channel **90** % Roads/Trails **90** % Protection/Safety **80** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	50	80	N/A
Channel	30	50	N/A
Roads/Trails	90	70	N/A
Protection/Safety	90	90	N/A

E. Cost of No-Action (Including Loss): **11,175,000**

F. Cost of Selected Alternative (Including Loss): **8,123,000**

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	[x] Soils	[x] Geology	[ ] Range	[x] Information
[ ] Forestry	[x] Wildlife	[ ] Fire Mgmt.	[ ] Engineering	[x] Rec/Wilderness
[ ] Contracting	[ ] Ecology	[x] Botany	[x] Archaeology	[ ]
[ ] Fisheries	[ ] Research	[x] Landscape Arch	[x] GIS	

Team Leader:greg kuyumjian/rory steinke

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FAX:928.528.3620

H. **Treatment Narrative:**

Land Treatments:

Seeding (11 acres) – pockets of productive soils are limited, areas with less than 15% slope and high severity burn will be hand seeded with a seed mix previously used and approved for previous BAER

treatments in the Oak Creek Watershed above Highway 89A. Beside maintaining site productivity, this burned area is directly upgradient of a FS facility (compost toilet).

From previous submitted and approved report La Barranca 2500-8 (6/10/2006)

Species	Suggested Planting Rate (pls #'s/acre)	Contribution in Seeds/ft2
Western Wheatgrass (*Agropyron smithii*)	1.20	3
Sideoats grama (*Bouteloua curtipendula*)	0.30	3
Blue Grama (Bouteloua gracilis)_	.30	3
Little bluestem (*Schizachyrium scoparium)*	0.75	5
Sand dropseed (*Sporobolus cryptandrus*)	0.15	18
Wheat X Rye sterile	17.00	5
Total	19.70	37

Straw Mulch (9 acres) – as above, hand application of certified weed seed free straw mulch with a local crew at about 1-1 1/2 tons/acre.

Noxious weed detection – survey of suppression lines, spike areas and helispots for potential introduction of noxious weeds due to suppression activities (2 trips)

Noxious weed removal – three 0.1 acre areas (Dalmatian toadflax (LIDA)) in the Red Rock Secret Mountain Wilderness, just within the fireline, discovered during BAER surveys will be removed with hand crews. Future removals, if necessary, will be the responsibility of the Forest weed progam.

Channel Treatments:

Manual and mechanical (chain saw) removal of existing downed floatable woody debris in channels draining directly under US Highway 89A. Six drainages totallying two miles were identified. Approximately half of these miles are within the Red Rock Secret Mountian Wilderness.

Head cut migration – a recently developed headcut will downcut and expand due to inflow of concentrated post fire runoff. Treatment of this headcut will prevent erosion of deep soils immediately tributary to Oak Creek. This will provide some minor water quality protection downstream.

Roads and Trail Treatments:

Closure and signage (20) of trails within, immediately downgradient, of leading into the fire perimeter to be re-evaluted after Labor Day.

Stabilization of a social trail that is within the fire perimeter and already downcutting adjacent to Oak Creek. Trail will be filled in and drained to prevent downcutting and increased concentration of post fire sediment transport and runoff into Oak Creek.

Protection/Safety Treatments:

Forest Service Infrastructure facilities (4) adjacent or directly below concentrated runoff from burned areas are to be wrapped with tarps and sandbagged to protect from elevated ash-laden runoff. This protection will not be adequate for rock fall and debris flows. A pump house and a composting toilet at Encinosa Campground and a pump house at Manzanita Campground will be treated.

Institute Forest closure of the burned area and areas immediately downgradient of the burned area. This includes dispersed access from US Highway 89A and day and campground use along Oak Creek through the Labor Day holiday or the end of the summer monsoon rains

Increased closure awareness patrol and support to maintain safety along and adjacent to US Highway 89A for three days/week through Labor Day holiday. This would allow for increased staffing during busiest times to patrol and manage use within the canyon area immediately downgradient of the burned area.

Continue coordination with County and State emergency services.

Coordinate with ADOT geotechnical hazard assessments teams. Includes notification letters and field support.

ALERT Network installation support and coordination to include site location in wilderness.

Campground hosts and concessionaire services located in at risk areas will be relocated – return is subject to reevaluation after the Labor Day weekend or end of summer monsoon rains.

Request for Use of Motorized Equipment/Mechanized Transport in Wilderness

Existing in-channel floatable debris removal is proposed for approximate 0.9 ephemeral stream miles in the Red Rock Secret Mountain Wilderness in several unnamed tributaries to Oak Creek Canyon watershed. A large percentage of the Brins Fire on Coconino National Forest lands is within the Red Rock Secret Mountain Wilderness (tributary to Oak Creek Canyon). National policy and guidelines in Forest Service Manual 2523.03 and FSM 2323.43(b), explain that emergency stabilization treatments should be proposed "only if necessary to protect life or property (inside or outside wilderness) or resource values outside wilderness, or to prevent an unnatural loss of the wilderness resource." Due to serious concerns regarding downstream resources outside of wilderness and to prevent the loss of critical infrastructure with potential threats to life and property, it is proposed to use crews to remove existing floatable woody debris to above projected post-fire high water elevations. In post-fire storm events, floatable woody debris will very likely be transported downstream and compromise existing ADOT culverts under US Highway 89A, potentially causing serious damage to the road infrastructure and closure of the road for an indefinite period of time. Large debris could also pose a direct hazard to life and property if carried into or across the highway during flash flooding. This technique has been utilized on Cerro Grande, Aspen, Rodeo-Chediski and other fires with proven short-term success, with no serious long-term consequence on social or biophysical values. Chain saw use would occur for an estimated one to two days, and helicopters would be employed only if a critical time constraint posed by upcoming storms required speedier deployment of crews in the proposed treatment area. Post fire recruitment will replace removed large woody debris in the months and years following the immediate post-fire flooding events.

Installation of a temporary ALERT station (public safety early warning) on or near Wilson Mountain is also proposed. Delivery of the unit by helicopter would be employed in order to meet critical timeframes. ALERT station and supporting attachments will be removed when flood risk has decreased to non-emergency levels, depending on watershed recovery (anticipated 2-5 years).

As part of this submittal, we request Regional Forester approval for the use of chain saws and helicopter transport in Red Rock Secret Mountain Wilderness due to the immediate need to remove floatable wood debris from several unstable drainages and to install a temporary sensing station prior to the first post-fire monsoon storm event. This request falls under Category 1, FSM 2326.1., "Emergencies where the situation involves an inescapable urgency and temporary need for speed beyond that available by primitive means."

I. **Monitoring Narrative:**

A monitoring plan is not being considered. Accomplishment "as-built" diagrams will be completed by the designated Implementation Team Leader. If the Forest determines that more might be necessary, an Interim report with a separate detailed monitoring plan will be submitted.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim #**

			NFS Lands				Other Lands				All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Seeding (hand)	acres	130	11	$1,430	$0		$0		$0	$1,430
straw mulch (hand)	acres	1500	9	$13,500	$0		$0		$0	$13,500
noxious weed detect	acres	120	35	$4,200	$0		$0		$0	$4,200
noxious weed control	acres	5100	0.3	$1,530						$1,530
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$20,660	$0		$0		$0	$20,660
B. Channel Treatments										
debris removal	miles	5000	2	$10,000	$0		$0		$0	$10,000
headcut control	each	2500	1	$2,500	$0		$0		$0	$2,500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$12,500	$0		$0		$0	$12,500
C. Road and Trails										
signage (closure)	each	150	20	$3,000	$0		$0		$0	$3,000
stabilization (trail)	miles	4000	0.25	$1,000	$0		$0		$0	$1,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$4,000	$0		$0		$0	$4,000
D. Protection/Safety										
structures (FS)	each	1500	4	$6,000	$0		$0		$0	$6,000
coordination (ADOT)	days	400	7	$2,800	$0		$0		$0	$2,800
coordination (ALERT)	days	400	7	$2,000						$2,000
closure patrol	days	300	27	$8,100	$0		$0		$0	$8,100
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$18,900	$0		$0		$0	$18,900
E. BAER Evaluation										
team				---	$40,000		$0		$0	$40,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$40,000		$0		$0	$40,000
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$56,060	$40,000		**$0**		**$0**	**$96,060**
Previously approved										
Total for this request				**$56,060**						

PART VII - APPROVALS

1. /s/ Nora B. Rasure 7/5/2006
   Forest Supervisor (signature) Date

2. /s/ Abel M. Camarena 7/7/2006
   Regional Forester (signature) Date