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 (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: Dollar Ridge

B. Fire Number: UT-NES-200383

C. State: Utah

D. County: Duchesne

E. Region: 04

F. Forest: 01 – Ashley and 19 – UWC

G. District: Roosevelt-Duchesne

H. Fire Incident Job Code: PNLXY0 (1502)

I. Date Fire Started: July 1, 2018

J. Date Fire Contained: Est. 07/30/2018

K. Suppression Cost: $18.2M (through 07/28/2018)

L. Fire Suppression Damages Repaired with Suppression Funds:

Reference the Dollar Ridge Fire suppression incident GIS data for more information.

1. Firelines waterbarred and seeded: Dozer Line - 16 miles (none on NFS roads); Handline – 13 miles.
2. Other (identify): incident command post support facilities (camping, weed wash, catering, etc.), spike camps, staging areas, drop points, and water dip/pump sites were identified for suppression repair, including seeding, scattering of slash, removal of dams and blocking motorized vehicle access where needed.

M. Watershed Number:

Watersheds	Outside Fire Perimeter	Unburned-Very Low	Low	Moderate	High	Total Watershed Acres
Beaver Canyon-Strawberry River	7,136 (24%)	5,739 (19%)	7,764 (26%)	8,552 (28%)	901 (3%)	30,092
Deep Creek Canyon	10,039 (76%)	483 (4%)	1,681 (13%)	1,006 (8%)	4 (<1%)	13,211
Finger Canyon-Avintaquin Creek	22,602 (97%)	134 (<1%)	528 (2%)	0	0	23,263
Outlet Currant Creek	10,397 (62%)	1425 (9%)	3,410 (20%)	1,545 (9%)	14 (<1%)	16,790
Outlet Red Creek	4,486 (64%)	904 (13%)	1,370 (20%)	230 (3%)	0	6,990
Sams Wash-Strawberry River	12,063 (13%)	85 (<1%)	160 (1%)	0	0	12,308
Simmons Canyon-Strawberry River	858 (6%)	2,383 (18%)	7,623 (57%)	2,413 (18%)	38 (<1%)	13,315
Soldier Creek-Strawberry River	18,808 (18%)	61 (<1%)	405 (2%)	221 (1%)	85 (<1%)	19,579
Timber Canyon	21,532 (74%)	1,593 (6%)	3,449 (12%)	1,855 (6%)	494 (2%)	28,924
Water Hollow-Currant Creek	25,446 (99%)	5 (<1%)	255 (1%)	0	0	25,707
Willow Creek	27,083 (96%)	146 (<1%)	589 (2%)	349 (1%)	3 (<1%)	28,170
Total Burned Acres		**12,956 (22%)**	**27,233 (47%)**	**16,169 (28%)**	**1,539 (3%)**	

N. Total Acres Burned: 57,897 acres (based on BAER assessment perimeter)

NFS - 12,625 Other Federal - 12,523 State - 10,373 Private - 20,613 Tribal – 1,763

O. Vegetation Types: Douglas fir, Aspen/mixed confier, pinyon juniper, sagebrush

P. Dominant Soils: Soils range from highly developed Alfisols and Mollisols to poorly developed Entisols and Inceptisols. Soil temperature regimes are mainly frigid and cryic; soil moisture regimes are dominantly ustic. The surface rock cover is highly variable in the burn area and the dominant surface soil textures are sandy loam and loam.

Q. Geologic Types: On NFS lands the fire burned entirely within the Green River Formation. It burned on three different facies: Green River Sandstone, Green River Saline, and the main body of the Green River Formation.

R. Miles of Stream Channels by Class:

Perennial Streams (miles): 0.5
Intermittent Streams (miles): 48.4

S. Transportation System (miles)
NFS Roads: 1.6
NFS Trails: 16.6

PART III - WATERSHED CONDITION

A. Burn Severity:

NFS	Acres	Other Federal	Acres	State	Acres	Private	Acres	Tribal	Acres
High	1,157	High	119	High	120	High	143	High	
Moderate	5,446	Moderate	4,427	Moderate	2,810	Moderate	3,487	Moderate	
Low	4,341	Low	5,612	Low	4,291	Low	11,870	Low	1,496
U/VL	1,682	U/VL	2,365	U/VL	3,153	U/VL	5,113	U/VL	267
Total	**12,625**	**Total**	**12,523**	**Total**	**10,373**	**Total**	**20,613**	**Total**	**1,763**

B. Water-Repellent Soil (acres): 1,667 acres are estimated as having medium to strong water repellency. Roughly 50% (578 acres) of the high soil burn severity and 20% (1,089 acres) of the moderate burn severity are expected to have heightened runoff potential with increased risk for accelerated surface erosion.

Areas exhibiting moderate to strong repellency and projected water repellent conditions will persist until roots, rhizomes, and soil microorganisms begin to re-aerate pore spaces and breakdown organic residues.

C. Soil Erosion Hazard Rating (acres):
795 (low) 9,982 (moderate) 1,848 (high)

D. Erosion Potential: 4.6 tons/acre

ERMiT predictions indicate post-fire soil loss ranges between 0.4 and 4.3 tons/acre for a 10-year storm event, depending on slope length, shape, soil depth, and steepness.

E. Sediment Potential: 603 yd^3/mi^2 (sediment delivery average for 2 years post-fire; year 1 = 1,547 yd^3/mi^2, year 2 = 432 yd^3/mi^2)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3-5 to re-establish ground cover or understory vegetation

B. Design Chance of Success, (percent): 80%

C. Equivalent Design Recurrence Interval, (years): 15*

D. Design Storm Duration, (hours): 2 hour

E. Design Storm Magnitude, (inches): 1-3

F. Design Flow, (cubic feet/second/square mile): 3.84*

G. Estimated Reduction in Infiltration, (percent): 15%

H. Adjusted Design Flow, (cfs per square mile): 8.75

* based on USGS stream gage

PART V - SUMMARY OF ANALYSIS

Background: The Dollar Ridge Fire started as a result of human ignition on private lands on July 1, 2018 on private lands under the jurisdictation of the State of Utah Forestry, Fire, and State Lands – North East Area in Wasatch County, Utah. The fire exhibited extreme behavior after ignition and was driven by strong winds that pushed its growth rapidly to the east towards the towns of Fruitland and Strawberry. Unfortunately, the fire burned 438 structures, including primary and secondary residences, camper trailers, vehicles, and outbuildings.

The BAER assessment team initiated field reconnaissance of the burned area on July 21st, using a defined perimeter of 57,897 acres. At that time the fire was 93% contained with minimal access to the NFS lands. The Dollar Ridge Fire burned in the Beaver Canyon-Strawberry River, Simmons Canyon-Strawberry River, and Timber Canyon watersheds, mostly on the Roosevelt-Duchesne Ranger District, Ashley National Forest. Approximately 78 acres burned in the Soldier Creek-Strawberry River on the Heber-Kamas Ranger District, Uinta-Wasatch-Cache (UWC) National Forest.

The values at risk from the Dollar Ridge Fire post-fire effects include: human life and safety, transportation infrastructure (roads and trails), soil productivity, water quality, native vegetation communities, and site integrity of cultural resources. The primary threats to the values are: 1) increased runoff, which is expected to intensify the first 2-5 years following the fire until the burned watersheds recover; and 2) accelerated hillslope erosion as a result of amplified runoff and decreased infiltration rates.

On July 22 a localized thunderstorm produced an estimated 1-3 inches of rainfall within 2 hours upstream of the Pinnacles area in the Strawberry River watershed. Numerous debris/mud flows orignated from side drainages with subsequent flooding in the valley bottom. This storm demonstrated the potential response of the burned area to intense rainfall. Large amounts of debris blocked the riverflows, eliminating road access into and out of the drainage. A variety of non-NFS values (homes, roads, bridges, and fish habitat) were impacted. While no injuries were reported, this storm event with subsequent debris flows and flooding posed a serious threat to safety. The estimated precipitation intensity and duration was useful in validating and adjusting estimates of expected post-fire runoff.

Debris flows generally do not move large material (cobble, boulders) beyond the toe of steep tributary drainages. Where steep tributaries (gradient of 10-15 %+) meet main stem receiving streams (less than 2% gradient), large, coarse debris flow material is deposited as alluvial fans. While the coarse material stops, water, floatable debris, and significant amounts of gravel, sand, and silt do not. Beyond the hillslope toe, the threat from these events is primarily related to rapidly increased stream flows, floatable debris, and increased fine grained sediments in main stem channels downstream. High intensity, short duration rainfall may result in valley bottom flooding and localized debris flows, primarily in the Strawberry River drainages. Additional threats originating from the destabilized hillslopes throughout the burned area include falling rocks, falling trees and snags.

A. Describe Critical Values/Resources and Threats (narrative):
(formatted to incorporate “Critical Values and Risk Assessment” from WO ID 2520-2015-1)

1. Human Life and Safety:

Potential threats to visitors/recreating public, residents of private lands, & Forest Service employees include flooding with a heightened potential for debris flows, hazard trees and rock fall, and loss of ingress and egress. These threats exist primarily along county roads and areas downstream or downslope of burned slopes. Risk is increased because of higher probability in places having greater access and more frequent concentrations of people. Locations with increased risk is primarily the Strawberry River corridor. For NFS lands the following human life and safety risks have been identified:

High risk (likely, moderate) to forest visitors and Forest Service employees within and adjacent to the burned area travelling NFS trails 1086 (Bull Hollow), 1088 (Slab Canyon), 1089 (Cow Hollow), and 655 (Pine Hollow); and **Intermediate risk** (possible, moderate) when travelling NFS road 149 (Timber Canyon) due to the increased threat of falling trees, rolling rocks, flash floods, and debris flows within the burned area. *(Treatment PS-01 Warning Signs)*

High risk (likely, moderate) to livestock permittees and herders from threats that include falling trees, rolling rocks, flash floods, and debris flows. Scenarios exist where herders could be routing livestock through unburned areas with threats originating from upslope burned areas; or moving livestock that has roamed into burned areas. Signs recommended in Treatment PS-01 will mitigate some of the threats. However, a BAER assessment management recommendation is appropriate rest for pastures burned in the fire. The rest requirement could be implemented through annual operating instructions; reducing exposure to the threats would provide the greatest risk mitigation.

Low risk (unlikely, moderate) to human life and safety was characterized for forest visitors and Forest Service employees travelling NFS road 200 (Twelve Hundred Dollar Ridge) and in the vicinity of the Aspen Grove Campground (UWC National Forest). No additional safety measures are recommended.

An increased threat is expected to private residents within and adjacent to the fire perimeter in Strawberry River drainage. The potential for flash flooding, debris flows, falling rocks and trees threatens ingress and egress of landowners if road systems are impacted. Several privately-owned land parcels exist within and downstream from the fire area. Coordination and information sharing with emergency management services is recommended.

2. Property:

Road and Trail Infrastructure

Threats common to road and trail infrastructure associated with post-fire watershed response are increased runoff and overland water flow. These threats entrain and move hillslope sediment and debris downslope to roads and trails, exceeding the capacity of drainage features such as roadside ditches, trail waterbars, culvert inlets, roadway dips and run outs. Once the drainage features become impacted and overwhelmed by the increased runoff, their function fails with uncontrolled water diverted and causing major damage to roads and trails. An accumulated threat is loss of access (ingress and regress) to travel routes.

There are roughly 1.6 miles of National Forest System Roads (NFSR) and undetermined miles of non-system/unauthorized roads within the fire area. There is a **low** risk (possible, minor) to NFS road 149 (Timber Canyon) because of its location east of the fire. There is a very low risk (unlikely, minor) to NFS road 200 (Twelve Hundred Dollar) because of its ridgetop location.

Very High risk (very likely, moderate) and **High risk** (likely, moderate) to NFS trail prisms from increased overland flow and accelerated erosion concentrating on route segments within and downslope from areas burned at moderate and high severity. Failure of these trail segments constitute a loss of Forest Service infrastructure. In isolated locations threats that include trail tread damage from burned out stump holes and loss of trail tread integrity increase risks to public safety. Where past fires have occurred the tread damage may not be visually obvious until the following spring under saturated or high ground water conditions. *(Treatment RT-01 Trail Drainage Reconstruction)*

Damage to range water developments and fences was discussed. The BAER authority does not provide for replacement of burned facilities. Damage to water developments and fences is evaluated in the context of the post-fire conditions being a threat, causing impacts (safety or hazards to human health, erosion, etc.) to other BAER critical values. No threats were identified and no treatments are recommended.

3. Natural Resources

Native Plant Communities

High Risk (likely, moderate) to native and naturalized plant communities. The primary threat is spread of *Carduus nutans* (musk thistle) and *Bromus tectorum* (cheatgrass) that exists in high densities on adjacent private and other agency lands onto NFS lands. The risk is greatest in moderate and high burn severity areas below aspen, pinyon juniper, sagebrush, and riparian communities; and ground disturbance caused by equipment line construction, drop points, and suppression damage repair are at risk due to spread of noxious weeds and invasive plant species. *(Treatment L-01 Early Detection and Rapid Response; Treatment L-02 Minimize Invasive Species)*

Soil Productivity

High Risk (possible, moderate) to soil productivity from accelerated hillslope and sheet erosion, rilling, and gullying in moderate and high burn severity areas. Increases in soil erosion are expected from the loss of protective soil cover and nutrient-rich organic matter, thereby decreasing soil productivity. Analysis of existing soil conditions within the burned area suggests an increased probability for elevated erosion over the inherent high erosion hazard. Damaging erosion events will likely be localized in the moderate and high burn severity areas in the short term (< 10 years) and not result in long-term soil degradation. Risks to soil productivity will diminish as forest floor recovery occurs, therefore natural soil recovery is considered an appropriate response action. While no treatments are recommended to protect soil productivity, the EDRR (L-01) and seeding (L-02) treatments will provide some protection to soil resources.

Hydrologic Function

High risk (likely, moderate) from increased run-off with overland flow influencing erosion and sediment delivery to hydrologic function from post-fire conditions. The conditions that

contribute to these include: decreased infiltration, reduced vegetation canopy, and ground cover. Impacts to watershed process that regulate hydrologic function are expected within moderate and high burn severity areas. The recommended response action is natural recovery.

The **High risk** to hydrologic function is best explained by a watershed response summary for a July 22nd summer monsoon-type rainfall event that localized in the lower reach of the Strawberry River drainage within the burn perimeter. Rainfall and duration was approximately 1-3 inches of rain in about a 2 hour time period. Due to the steepness of the contributing drainages, burned hillslopes with large areas now devoid of vegetation and groundcover, this first large runoff-producing storm increased overland flow and surface runoff. A USGS gage (09285900) in the Strawberry River showed a water surface rise of approximately 7 feet. This rise of the water surface caused overbank flooding on the adjacent county road and private land. In addition to the increased stream flow, the storm resulted in debris slides, some of which were very large. The debris from these slides contributed to the bulk volume of Strawberry River. It should be noted that this intense rainfall event may have caused flooding and earth sliding regardless on the fire, but flooding and debris effects were most likely exacerbated the burned landscape. Based on results of this storm, high sediment yields from the burned watersheds are expected during the first year after the fire. In addition to high sediment input, the debris flows and overbank flooding caused a large amount of woody debris to enter the stream channel, which in turn lead to multiple large debris jams. One location cross-sectional channel survey and flood level water surface slope was obtained resulting in an estimated discharge of 1300 cfs (cubic feet per second). Pre-fire peak discharge from USGS Gage with 17 years of record was 572 cfs.

4. Cultural and Heritage Resources:

Low risk (unlikely, moderate) to critical Cultural and Heritage Resources. Known sites potentially affected are associated with rock cliffs or outside the fire perimeter located on stable ground near a ridgeline. No response action are recommended.

5. Other non-BAER Values:

There are numerous NFS resources that are not BAER Critical Values in addition to non-NFS values potentially at risk from post-fire threats. A Values at Risk (VAR) table describing these values will be provided to the Forest Supervisor and District Ranger. Treatment recommendations for these resource values have not been developed. Restoration and rehabilitation activities to address the non-BAER Critical Values on NFS lands can be considered for discretionary program funding. It is recommended the non-NFS values potentially threatened by post-fire conditions be communicated to the appropriate cooperating agency.

B. Emergency Treatment Objectives:

1. Reduce unacceptable risks to human life and safety on NFS lands from flooding debris flows. Taking immediate actions to protect human life is the single overriding objective prior to implementing other actions.

2. Reduce unacceptable risks to NFS trails due to post fire erosion and flood events. The intent of the proposed treatments is to minimize additional loss to infrastructure.

3. Decrease risk to native and naturalized vegetation communities from the threat of noxious weeds and invasive species.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land - 80 Channel - NA Roads/Trails - 80 Protection/Safety - 90

D. Probability of Treatment Success

Treatment	Years after Treatment		
	1	3	5
Land	70	80	80
Channel	NA	NA	NA
Roads/Trails	80	NA	NA
Protection/Safety[a]	90	80	70
a.Initially, visitors will heed the warning signs. Complacency is expected after the initial year unless there is a damaging event.			

E. Cost of No-Action (Including Loss): $45,000

Expected loss if Trail Tread Stabilization treatment is not implemented is estimated to be $45,000. There is an 80% probability post-fire conditions will cause some damage to segments of the 9 miles of trail located through moderate and high burn severity. The No-Action cost reflects reconstructing 9 miles of trail @ $5,000/mile.

F. Cost of Selected Alternative (Including Loss): $20,145 ($13,430 + 0.50 probability of loss)

This is a direct market value analysis for recreation trails and does not incorporate non-market BAER critical values. The cost estimate to implement needed trail drainage and tread stabilization is $13,430 (roughly $1,600/mile).

G. Skills Represented on Burned-Area Survey Team:

[**X**] Hydrology [**X**] Soils [ ] Geology [**X**] Range [**X**] Recreation
[ ] Forestry [ ] Wildlife [ ] Fire Mgmt. [**X**] Engineering [ ] Minerals/HazMat
[ ] Contracting [ ] Ecology [ ] Botany [**X**] Archaeology [ ] Vegetation
[ ] Fisheries [ ] Research [**X**] GIS [ ] Landscape Arch
[**X**] Public Information

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H. Treatment Narrative:

Land Treatments:

L-01 EDRR. Reduce the potential for establishment of noxious weeds and invasive plant species into native or naturalized communities. The focus is where noxious weeds are absent or

currently low in abundance in highly susceptible burned areas; and minimize potential for spread of existing populations of invasive plants onto NFS lands.

Noxious weed detection and treatment will be conducted in FY2019 using Early Detection and Rapid Response (EDRR) for known populations and identify new occurrences within and adjacent to the fire perimeter. Treatments will occur at proper phenology of each species to ensure maximum control. This treatment will be supplemented by natural re-vegetation.

Assess areas that have a high potential for noxious weed and invasive species establishment. Detection and treatment will occur along NFS roads that were heavily traveled and prepped for burnout. These roads are vectors for weed expansion and establishment. Key species targeted for survey and control are: cheatgrass, musk thistle, Russian knapweed, and whitetop. The focus will be NFS lands located adjacent to non-NFS lands having existing weed populations, where fire suppression may have introduced noxious weed seeds, and roads where fire suppression disturbances create greater potential for noxious weeds and invasive plant species to establish. The Early Detection/Rapid Response (EDRR) provides for treatment to minimize spread of these species before they become infestations on NFS lands.

Specific to fire suppression operations, EDRR will be implemented along approximately 28 miles of NFS roads and estimated invasive plant treatments across 30 acres (776 total acres). Priority locations: Timber Canyon road (149), Reservation Ridge road (147), and handlines between Reservation Road and UWC 086. (See Treatment Map for a visual display.)

1. Conduct short-term monitoring in FY2019 using early detection and rapid response (EDRR) assessment/monitoring of noxious weed/non-native invasive plant species within the burned area. Monitoring to determine the post-fire presence or spread of invasive species throughout the fire area.

2. Inventory/assessment, photos and map new noxious weed infestations within burned area using GPS technology and upload into the Roosevelt-Duchesne Ranger District GIS Noxious Weeds database.

3. Chemical treatments using pickups, UTVs, and backpack spray units will be used on noxious weeds located within the fire on NFS lands. Consider coordination with County weed control departments and potentially private land owners to address non-NFS treatments of noxious weeds on other land ownerships adjacent to the burn perimeter.

EDRR Cost Estimate

Item	UOM	Unit Cost	# of Units	Total Cost
Suppression Activity – Noxious Weeds & Invasive Plant EDRR	acres	$40	776	$31,040
BAER – Increased susceptibility in High + Moderate SBS	acres	$40	157	$6,280
			Total Cost	**$37,320**

L-02 Seeding to Minimize Invasive Species Spread. Native seeding treatments within two Forest Service hollows (Cow Hollow and Slab Canyon) where invasive plants such as cheatgrass and musk thistle have been documented will be targeted. Seeding treatments will decrease potential for expansion of these species and increase resiliency of the native plant communities. Without seeding, cheatgrass will be expected to increase in the moderate to high

burned areas. EDRR for BAER in L-01 is complementary to the seeding, the objective is to ensure noxious weeds and invasive cheatgrass are controlled to reduce competition for the seeding to be effective.

Seeding to Minimize Spread of Invasive Plants

Location	UOM	Unit Cost	# of Units	Total Cost
Cow Hollow	acres	$165	34	$5,610
Slab Canyon	acres	$165	123	$20,295
			Total Cost	**$25,905**

Cost estimate is based on seed price quote obtained July 28, 2018 from a local vendor ($6/lb) and actual rates for aerial application from a similar project implemented by the Forest in 2015. There is potential cost savings with the seeding proposal (LT-02), should the State of Utah-Division of Natural Resources pursue a large-scale seeding effort on adjacent lands. The Forest will utilize agreements or other appropriate acquisition tools to coordinate implementation efforts, with caveat the coordination will achieve the Forest's objective for fall 2018 implementation. Another potential option is to use an existing Forest Service helicopter contract for application.

Recommended Seed Mix

Common Name	Scientific Name	Total Lbs.
Sherman big bluegrass	*Poa secunda ampla phase*	450
P-7 Bluebunch wheatgrass or Bluebunch wheatgrass variety Anatone	*Pseudoroegneria spicata* *Pseudoroegneria spicata* variety *Anatone*	300
Critana thickspike wheatgrass	*Elymus lanceolatus*	300
Piute orchardgrass	*Dactylis glomerata*	150
Ladak alfalfa	*Medicago sativa*	150
Snake river wheatgrass	*Elymus wawawaiensis*	300
Crested wheatgrass variety Ephraim	*Agropyron cristatum variety Ephraim*	150
	Total Lbs.	**1,800**

Seed mix based on recommendations of Forest Ecologist
Twelve (12) pounds per acre application for estimated 150 acres; best suited lands for treatment are moderate and high soil burn severity, less than 20% slope.

Channel Treatments: none proposed

Road and Trail Treatments:

TR-01 Trail Tread Stabilization. There are 17 miles of trails within the fire area. Trail drainage is insufficient on approximately 9 miles of trails to handle anticipated increases in runoff following the fire in the burned areas of moderate to high severity. In these areas, drainage dips, water-bars and log checks would be used to correct the deficiencies.

The proposed treatment will clean existing trail drainage structures and install additional water bars and rolling grade dips on 8.8 miles of trails within the burn perimeter. All 8.8 miles of trail fall within areas burned at high or moderate burn severity or are located downslope of areas within the drainage that burned at high or moderate burn intensity. The treatment will prevent erosion and further failure of the trail tread which would be considered a loss of Forest Service property. This treatment would also provide for safety of trail users and employees working in the burned area. Hazard tree identification and falling in the vicinity of work sites is required prior to beginning drainage structure work.

Bull Hollow Trail: There is a 0.8 mile long segment of this trail that runs through moderate to high severity burned soils. The trail is 15% to 20% under-slung below large, wide-open burnt areas that will eventually erode into the trail, taking out large segments, compromising the integrity of the bench. Additionally the trail is a bench cut where root balls have burned out under the trail creating hazardous voids. Rock retaining walls will need to be constructed to support the trail tread from failing.

Cow Hollow Trail: 3.6 miles within moderate to high soil burn severity. The lower part of the trail is located in the canyon bottom of Cow Hollow, which leads to Timber Canyon. The upper part of the trail is along the ridge line between Slab Canyon and Cow Hollow. The middle section of the trail climbs up to the ridge line and has an average slope of 20%. This 0.8 mile section of trail is susceptible to major erosion because of the steep gradient. Installing log or rock check dams and trail drainage structures will decrease the erosion potential.

Slab Canyon Trail: 4.2 miles within moderate to high soil burn severity. The trail is located along the hillside and bottom of Slab Canyon. Along one hillside bench cut root systems have burned out under the trail creating hazardous voids. Rock retaining walls will need to be constructed to support the trail tread from failing.

Trail Drainage & Tread Stabilization

Item	UOM	Unit Cost	# of Units	Total Cost
Trail Tread Stabilization	Miles	$1,580	8.6	$13,588

Protection/Safety Treatments:

PS-01 Road & Trail Burned Area Hazard Warning Signs. Design and install burned area warning signs to caution recreating forest visitors and administrative users about the potential hazards that exist within the burned area. The language is consistent with examples provided in the BAER Treatments Catalog. The warning signs communicate the hazards and potential threats when traveling NFS roads and trails, informing users of the dangers associated with entering the burned area. Hazard warning signs will be located at key road and trail entry points accessing the burned area on NFS lands.

The purchase and installation of signs will be consistent with Forest Engineering Standards. A Forest Service employee will inspect the signs for visibility, damage, or loss and replace as needed.

BAER Warning Signs - Roads

Item	UOM	Unit Cost	# of Units	Total Cost
Signs, Posts, and Hardware	each	$400	3	$1,200
Labor for Installation	each	$500	1	$500
			Total Cost	**$1,700**

Locations. Road signs describing burned area hazards will be placed in the following locations: forest boundary, southbound on Timber Canyon Road (FR 149) (potentially westbound on Strawberry River Road, immediately upstream of Camelot); northbound on Reservation Ridge Road (FR 147) immediately south of the interesection with Timber Canyon Road (FR 149); eastbound on Reservation Ridge Road (FR 147) before the intersection of NFS roads 301/200.

BAER Warning Sign Locations - Roads	NFS Road	Latitude	Longitude
Timber Canyon Road	149	40^{0}05'34.87"N	110^{0}50'07.27"W
Reservation Ridge Road	147/149	40^{0}00'55.47"N	110^{0}59'26.59"W
Reservation Ridge Road	147/301/200	40^{0}02'20.40"N	110^{0}59'48.67"W

PS-02 - Trail Hazard Signs: Signs will warn users of the dangers associated with entering and using trails and dispersed recreation areas within the burned area. The installation of trail signs include posts and associated hardware.

BAER Warning Signs - Trails

Item	UOM	Unit Cost	# of Units	Total Cost
Signs, Aluminum Panels and Posts	each	$50	6	$300
Labor for Installation	each	$500	1	$500
			Total Cost	**$800**

Locations. Trail hazard signs will be placed in the following locations; At Cow Hollow Trail Head (089), at the Forest Service Boundary on the Slab Hollow Trail (088), Bull Hollow Trailhead off of the Strawberry River (086), Pine Hollow Trail Head (090), 1200 Dollar Ridge Terminus, and Strawberry River Day Use Area Fishing Access Trail.

BAER Warning Sign Locations - Trails	NFS Trail	Latitude	Longitude
Cow Hollow Trail Head	089	40^{0}05'41.86"N	110^{0}49'38.94"W
Slab Hollow Trail	088	40^{0}07'09.85"N	110^{0}53'35.95"W
Bull Hollow Trail Head	086	40^{0}07'35.86"N	110^{0}49'45.15"W
Pine Hollow Trail Head	090	40^{0}02'59.88"N	110^{0}56'22.49"W
1200 Dollar Ridge Terminus	NA	40^{0}03'00.33"N	110^{0}58'22.90"W
Strawberry River Day Use Area Fishing Access Trail	NA	40^{0}08'08.49"N	111^{0}01'36.50"N

BAER Assessment & Implementation Coordination:

Associated activities obligated under ID-FSM2520-2017-1 need to be considered in the BAER funding request when emergency response actions are authorized. These are accumulated tasks above the normal program of work and generally not accounted for in out-year program planning. Because implementation of approved BAER response actions trigger these required tasks and the unit's allocated budget does not account for these obligations, BAER funding is the appropriate authorization to ensure this consultation is completed.

Implementation Tracking & Required Reporting of Authorized Emergency Response Actions

	Rate	Days	Cost
Forest BAER Coordinator (GS-11)	$350	3	$1,050
		Total Cost	**$1,050**

NHPA Compliance for Implementation of Authorized Emergency Response Actions

	Rate	Days	Cost
Forest Archeologist (GS-12)	477	3	$1,431
		Total Cost	**$1,431**

Interagency Coordination: Interagency coordination is considered essential for facilitating special use authorization for the placement of an early warning weather station. The National Weather Service will be responsible for the placement and maintenance of the weather station.

Coordination with Duchesne County relating to Strawberry River Road will enable ongoing hazards mitigation and safety considerations on burned NFS lands.

Interagency Coordination with Cooperators

	Rate	Days	Cost
Forest BAER Coordinator (GS-11)	$350	5	$1,750
		Total Cost	**$1,750**

I. Monitoring Narrative:
(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

LT-01 and LT-02 treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives and to inventory for new invaders. Weed specialist/technicians will visit chemically treated sites after treatment; this is especially important for weed populations that are sprayed to ensure efficacy of herbicide application. Initiate follow-up treatments if additional non-native species or new infestations are discovered. Control will be considered successful upon determination that all noxious weeds have been controlled and non-native invasive plants have not spread beyond their pre-fire locations.

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim __

A. Land Treatments										
L-01 EDRR	acres	40	933	$37,320	$0		$0		$0	$37,320
L-02 Seeding	acres	165	157	$25,905	$0		$0		$0	$25,905
					$0		$0		$0	$0
			Subtotal Land Treatments	$63,225	$0		$0		$0	$63,225
B. Channel Treatments										
None				$0	$0		$0		$0	$0
			Subtotal Channel Treatments	$0	$0		$0		$0	$0
C. Road and Trails										
RT-01 Trail Drainage	miles	1,580	8.6	$13,588	$0		$0		$0	$13,588
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
			Subtotal Road and Trails	$13,588	$0		$0		$0	$13,588
D. Protection/Safety										
PS-01 Warning Signs - Roa	sign	4	425	$1,700	$0		$0		$0	$1,700
PS-02 Warning Signs - Trail	sign	7	114	$800	$0		$0		$0	$800
				$0	$0		$0		$0	$0
			Subtotal Protection/Safety	$2,500	$0		$0		$0	$2,500
E. BAER Evaluation										
Initial Assessment	Report			$47,000	$0		$0		$0	$47,000
Coordination & Consultation	lump sum	1	4,231	$4,231	$0		$0		$0	$4,231
			Subtotal Evaluation	$51,231	$0		$0		$0	$51,231
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
			Subtotal Monitoring	$0	$0		$0		$0	$0
G. Totals										
Total - This Request				$83,544	$0		$0		$0	$83,544
Previously Approved					$0		$0		$0	$0
			Total to Date	**$83,544**						**$83,544**

PART VII - APPROVALS

1. /s/JEFF SCHRAMM — July 30, 2018
   Forest Supervisor (signature) — Date

2. /s/ Mary Farnsworth (for) — August 15, 2018
   Regional Forester (signature) — Date