Date of Report: 10/16/2022

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds

☐ 2. No Treatment Recommendation

B. Type of Action

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

☐ 2. Interim Request #___

☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Double Creek

B. Fire Number: WWF-400

C. State: Oregon

D. County: Wallowa

E. Region: 6 Pacific Northwest

F. Forest: Wallowa-Whitman

G. District: Wallowa Mountains Office

H. Fire Incident Job Code: P6P1E5 (0616)

I. Date Fire Started: 8/30/2022

J. Date Fire Contained: estimated 11/1/2021

K. Suppression Cost: ?

L. Fire Suppression Damages Repaired with Suppression Funds (estimates): ?

1. **Fireline repaired (miles): 30 miles**
2. **Other (identify):**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170601010102	Butte Creek-Snake River	19,308	80	1%
170601010104	Saddle Creek	11,591	5,041	43
170601010106	Sluice Creek-Snake River	30,329	3,630	12
170601010202	Temperance Creek	9,263	2,819	30
170601010203	Salt Creek-Snake River	21,177	5,602	26%
170601010204	Corral Creek-Snake River	13,549	2,083	15%

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170601010205	Kurry Creek-Snake River	15,085	1,448	10%
170601010206	Big Canyon Creek-Snake River	11,635	1,785	53%
170601010208	Somers Creek-Snake River	19,603	2,298	49%
170601010303	Deep Creek	17,268	4,679	27%
170601020201	Summit Creek-Imnaha River	18,305	423	2%
170601020204	Freezeout Creek	9,924	6,705	68%
170601020205	Chalk Creek-Imnaha River	9,100	3,995	44%
170601020206	Deer Creek-Imnaha River	22,977	10,162	44%
170601020305	Marr Creek-Big Sheep Creek	17,815	0	0%
170601020306	Steer Creek-Big Sheep Creek	18,725	55	0%
170601020501	Bare Creek-Imnaha River	12,621	3,454	27%
170601020502	Fence Creek-Imnaha River	13,837	2,279	16%
170601020503	Upper Horse Creek	21,771	18,053	83%
170601020504	Lower Horse Creek	12,712	7,585	60%
170601020505	Upper Lightning Creek	16,812	12,923	77%
170601020506	Sleepy Creek	11,725	8,465	72%
170601020507	Lower Lightning Creek	10,897	2,721	25%
170601020508	Upper Cow Creek	13,874	9,919	71%
170601020509	Lower Cow Creek	11,916	4,023	34%

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	162,061
STATE	6
PRIVATE	10,965
TOTAL	173,032

O. Vegetation Types:

Typical vegetation in this canyonland setting include forest stringers and north slopes dominated by mixed conifer, Douglas fir and Ponderosa pine stands, and/or shrub stands. The benches, lower slopes and south and east facing slopes are dominated by grass communities, primarily bluebunch wheatgrass and Idaho fescue plant associations with inclusions of three awn, sand dropseed, Sandberg's bluegrass, and prairie junegrass. HCNRA contains one of the largest contiguous areas of bunchgrass grasslands in the Western United States. These areas provide important habitat for many of the HCNRA's sensitive and endemic plant species.

In the areas with less slope that have been degraded by past land use activities there is a stronger presence of invasive annual species. Shrublands exist in draws, previously burned slopes, mesic bench groves and along riparian areas. Shrub stands include sumac, snowberry, rose, bitterbrush, ninebark, hawthorn, rocky mountain

maple, poison ivy, elderberry, and hackberry. Historic use, events and current management has influenced invasive plants on the landscape in the canyonlands.

P. Dominant Soils:
Within Double Creek fire perimeter, silt loam textured soils are the dominate texture due to volcanic ash presence. Volcanic ash influence on soils in this area consist of thick, thin, and mixed ash soils. The most common soil type found within the fire were Udivitrands, which are highly productive because of their high water-holding capability and can support forested stands. Grassland dominated soils were predominantly Haploxerolls and Argixerolls, commonly found on South and West facing aspects, and plateau meadow systems. Shallow, rocky soils within the fire were predominantly Haploxerepts, found at ridge tops and South and West facing shoulder slopes. Erosion potential is generally high in the Double Creek fire perimeter due to inherent hydrophobicity of volcanic ash, high erosion potential when ground cover is removed, and steepness of slopes (>30%). Vegetative cover is key in protecting these soil types from excessive erosion.

Q. Geologic Types:
The Double Creek Fire lies with the Wallowa Terrane, which includes plutonic, volcanic, and sedimentary rocks ranging in age from Middle Permian through Early Cretaceous. Within the fire perimeter, Wallowa Terrane lithologies include, mafic composition intrusive rocks, mixed grained sediments of the Coon Hollow Formation, volcanoclastic rocks of the Doyle Creek Formation and Pittsburg Formations, metavolcanics of the Wild Sheep Creek Formation, Mélange rocks of the Cougar Creek Complex and Shear Zones. Overlapping the Wallowa Terrane rocks are Grande Ronde Basalts of the Columbia River Basalt Group, which erupted as flood basalts from a series of generally north-northwest-trending linear fissures from about 16.7 Ma to 5.5 Ma. Quaternary deposits include alluvial and alluvium deposits as well as landslide deposits.

R. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERENNIAL	209
INTERMITTENT	1,588
EPHEMERAL	0
OTHER WATER DIVERSION	5

S. Transportation System:
Trails: *National Forest (miles):* 274
Roads: *National Forest (miles):* 54

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	State	Private	Total	% within the Fire Perimeter
Unburned	47,609	6	5,189	52,804	31
Low	97,056	0	5,703	102,759	59
Moderate	13,120	0	61	13,181	8
High	4,276	0	12	4,288	2
Total	162,061	6	10,965	173,032	

B. Water-Repellent Soil (acres): 10,879

Fire-induced or altered hydrophobicity occurred on approximately 6% of soils (100% of severely burned soil and 50% of moderately burned soil) or around 10,879 acres. Inherent hydrophobicity was also noted in field observations, which could contribute higher counts of water repellent soils that may not have been fire induced.

C. Soil Erosion Hazard Rating:

Double Creek		
Erosion Hazard	**Erosion Hazard (acres)**	**Erosion Hazard (%)**
Low	45,589	26%
Moderate	97,852	57%
High	28,393	16%
Very High	1,193	1%

D. Erosion Potential: 1.2 tons/acre/year

E. Sediment Potential: 28,603 tons/year

F. Estimated Vegetative Recovery Period (years): 3-5 years

G. Estimated Hydrologic Response (brief description): Hydrologic response following wildfire in the Double Creek Fire burned area will include reduced interception and infiltration of precipitation, increased runoff and erosion, higher stream flow volumes for a given precipitation or snowmelt input, and a more rapid rise of stream and river levels compared with those of unburned conditions. Additionally, the probability of severe erosion, debris flows (USGS debris flow model Appendix A), and hillslope failure is substantially higher, and will remain so for at least the next few years. For additional information refer to the Double Creek Fire Hydrology Report.

Table 5. Modeled drainages at a 10-year, 24-hour storm with 2.6" precipitation. These drainages have BAER Critical Values associated with them.

Drainage		Area (acres)	Peak Flow		
			Pre-Fire Q_p (cfs)	Post-Fire Q_p (cfs)	Percent Increase (%)
Double-Creek Fire	Freezeout Creek	7164	37	44	19
	Hope Creek	847	0	37	n/a
	Lightning Creek	30025	95	115	21

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Double Creek fire was caused by lightning on August 30, 2022. Hot, dry weather, low humidity and drought conditions increased fire behavior causing it to quickly spread into the Hells Canyon National Recreation Area. At its peak there were multiple Type 1 Teams from multiple locations across the US

supporting the fire suppression efforts. Please see Appendix A for soil burn severity, soil erosion hazard, and treatment maps.

A. Describe Critical Values/Resources and Threats (narrative):

Table 6: Critical Value Matrix

Probability of Damage or Loss	**Magnitude of Consequences**		
	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**

1. Human Life and Safety (HLS):

- Protect human life and safety of forest visitors through raising awareness of the risks present in a post-fire mountainous setting by installing information and warning signs at trail and road portals in and adacent to the burned area.
- Fall hazard trees at the Horse Creek and Granny View vista points. These hazard trees pose an immediate unacceptable risk to the public and FS staff. The access to these two vistas are flat and wide open where barriers could be easily driven or walked around. There is also a bathroom, a paved parking lot and constructed rock walls that are at risk from falling hazard trees.
- Granny Viewpoint walking platform was burned and destroyed by the Double Creek Fire. A closure device is recommended for this location until the viewpoint walking platform can be fixed.

Value	Probability	Consequence	Rating	Threat
Trails and Roads	Possible	Major	High	Some trails and roads go through moderate and high intensity burn areas and are prone to falling and rolling fire killed standing and down trees
Hazard Trees at Horse Creek Vista Point and Granny View Recreation Site	Possible	Major	Very High	Hazard trees pose an immediate post fire risk to the public and FS staff at the two viewpoints listed.
Granny Viewpoint closure due to burnt walking platform	Likely	Major	Very High	Safety risk to the public due to viewpoint walking platform being burnt and unusable.

2. Property (P):

Storm proof and harden select culvert locations by creating drivable dips, hardened ford, and drainage features to divert water from the road running surface. Storm patrol days are included for District personnel to assess any damage from storms or run-off.

- NFSR 4204 Hat Point Road: this is a key arterial high-use road providing the only access to a lookout tower, a remote guard station, back-country landing strips, developed and dispersed recreation sites, numerous trailheads, prime hunting grounds, historic structures, and the expansive plateau between the Snake and Imnaha rivers. The first 12 miles of the road is steep as it extends from the valley bottom to the top of the plateau. Much of it is 10% or more and full-bench construction. There are numerous ephemeral draws and many relief culverts coupled with some out-sloped segments. The terrain and cutbanks are very steep and rocky. Culvert inlets and the ditch are incessantly choked by debris

    - Sheet flows off burnt slopes with sediment delivery to drainage features are likely to compromise capacity and cause surface damage and erosion. Certain drainage crossings are highly susceptible to blow-out or over-

topping by heightened runoff and small diameter drainage structures, likely resulting in fill slope and road damage, accelerated erosion, and excessive sediment transport.
  - Storm proofing of existing drainage (ditches and culvert inlets) and installation of several additional cross-drain pipes. Storm inspection and response for maintenance of installed treatments.

- NFSR 4230 Freezeout: high-use road accessing trailhead and private property. Low SBS slopes adjacent. Moderate SBS in drainages which cross the route on steep road segments.
  - Ephemeral and perennial drainage crossings are likely to cause road damage and significant fill slope erosion if the small diameter culverts are overwhelmed.
  - Storm proofing of existing drainage features. Storm inspection and response.

- NFSR 4240315 Warnock Corrals: primarily ridgetop with minimal fire impacts but several short segments of steep grade with adjacent moderate and high SBS.
  - Sheet flows off burnt slopes with sediment delivery to drainage features are likely to compromise capacity and cause road damage and accelerated erosion.
  - Installation of short drainage dips to remove storm flows and limit damage at steep segments of road.

- NFSR 4240345 Haas Ridge: primarily ridgetop with minimal fire impacts but several short segments of steep grade with adjacent moderate and high SBS.
  - Sheet flows off burnt slopes with sediment delivery to drainage features are likely to compromise capacity and cause road damage and accelerated erosion.
  - Installation of short drainage dips to remove storm flows and limit damage at steep segments of road.

Value	Probability	Consequence	Rating	Threat
Roads	Likely	Major	Very High	Steep side slopes, erodible soils, loss of canopy cover, increased peak flows and debris flows and poorly drained road network.

3. Natural Resources (NR):

Foster the recovery of native plant communities, including Federally listed species, in the burned area by minimizing the proliferation of noxious weed populations into their habitat.

MacFarlane's four o'clock (Mirabilis macfarlanei) is a perennial herb that is federally listed as threatened under the Endangered Species Act. This narrow endemic to Hells Canyon is only known from thirteen occurrences on slopes above the Snake, Salmon and Imnaha Rivers. The habitats where MacFarlane's four o'clock occurs have been severely degraded by past management (i.e., sheep grazing) and invasive species. Nature Serve (2022) has identified the primary threats to this species as the invasion of non-native plants and the subsequent increase in intensity and frequency of wildfires.

There are many unique plant communities within the burned area including ten plant species on the R6 Regional Forester's Sensitive Plant Species List: eared rockcress (Boechera hastatula), Cordilleran sedge (Carex cordillerana), slender lipfern (Cheilanthes feei), white cushion fleabane (Erigeron disparipilus), Engelmann's daisy (Erigeron davisii), membrane-leaved monkeyflower (Erythranthe hymenophylla), Barton's raspberry (Rubus bartonianus), and prairie cordgrass (Spartina pectinata). These ten species are distributed across the different vegetation types within the burned area, with 51 total sensitive plant populations within the Double Creek Fire perimeter.

Value	Probability	Consequence	Rating	Threat	Treatment
Federally listed plants- MacFarlane's four o'clock	Very Likely	Major	Very High	Invasives	P2 Invasives EDRR for sites of MacFarlane's four o'clock that burned with 50% or greater vegetation mortality

Native plant communities- R6 Regional Forester sensitive species	Very Likely	Moderate	Very High	Invasives	P1a. Invasives EDRR for documented sensitive plant sites that burned with 50% or greater vegetation mortality
Native plant communities- Native bunchgrass communities	Very Likely	Moderate	Very High	Invasives	P1a. Invasives EDRR for bunchgrass meadows, that burned with 50% or greater vegetation mortality P1b. Invasives EDRR - Suppression Repair for all ground disturbing points and lines P1b. Invasives EDRR - Suppression Repair along dozer line and bladed ML1 roads used as access points for the fire that burned over 50% or greater vegetation mortality

4. Cultural and Heritage Resources:
Hazard trees were identified at Memaloose Guard Station and Dorrance Cow Camp historic structures. These hazard trees present an imminent, unacceptable loss to these Heritage Sites. These cabins are used by Outfitters & Guides in the Hells Canyon National Recreation Area. The objective is to directionally fall selected hazard trees away from the structures.

Value	Probability	Consequence	Rating	Threat
Cultural & Heritage Resource	Likely	Major	Very High	Burnt out snags pose an imminent and unacceptable risk to the Memaloose Guard Station & Dorrance Cow Camp.

B. Emergency Treatment Objectives:
The objectives of the emergency treatments proposed in this document are to manage identified unacceptable risks from “imminent post-wildfire threats to human life and safety, property, and critical natural resources on National Forest System lands” (FSM 2523.02). The timely application of the proposed treatments is expected to substantially reduce the probability of damage to the BAER critical values identified in the section A, above.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: 95%
Channel: None proposed
Roads/Trails: 80%
Protection/Safety: 95%

D. Probability of Treatment Success

Table 7: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	90%	85%	85%
Channel	NA		
Roads/Trails	80%	90%	90%
Protection/Safety	95%	100%	100%

E. Cost of No-Action (Including Loss):
The cost of No-Action resulting from over 34 miles of road lost due to storm damage is estimated to be $998,150.

F. Cost of Selected Alternative (Including Loss):
The cost of the selected alternative is valued at $185,765 resulting in a $812,385 benefit of treatment.

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☒ Engineering ☒ GIS ☒ Archaeology
☒ Weeds ☒ Recreation ☒ Fisheries ☐ Wildlife
☒ Other:
Range

Team Leader: Todd Reinwald
Email: todd.reinwald@usda.gov **Phone(s)** 503-668-1769

Forest BAER Coordinator: Mary Young
Email: mary.young@usda.gov **Phone(s):** 541-962-8501

Team Members: *Table 8: BAER Team Members by Skill*

Skill	Team Member Name
Team Lead(s)	Todd Reinwald; Luke Cerise
Soils	Mary Young; Ut Huynh
Hydrology	Rob Lawler; Josh Erickson; Jared Chestnut
Engineering	Aaron Lamp; Richard Mills
GIS	Kim Vieira; Amanda Laur
Archaeology	Matt Mawhirter; Brittany Cardarella; Verna Gonzales
Weeds	Beckijo Smergut-Wall
Recreation	Tyler Dayberry; Emily Villa
Other	Botany: Sabrina Smits-Glenn; Fisheries: JD Jones; Hunter Lucas; PIO: Joseph Black; Geology: Keifer Nace

H. Treatment Narrative:

Land Treatments:
The Wallowa-Whitman Invasive Plant Treatment Project 2016 ROD permits treatment of EDRR invasive plant species within the scope of the EIS. There is a current IDIQ contract in place for treatment of invasive species on the Wallowa-Whitman National Forest. Monitoring and oversight of the Double Creek treatments will be with District staff.

Based on the risk assessment, we propose the following treatments (see the Botany Treatment Map):

a. P1a. Invasive EDRR- within the fire perimeter
    i. Protection area mapped polygons
        1. Surveys and treatment of known T&E plant populations that burned at 50% or greater vegetation mortality.
        2. Surveys and treatment of known sensitive plant populations that burned at 50% or greater vegetation mortality.
        3. Surveys and treatments of bunchgrass meadows, that burned with 50% or greater vegetation mortality.
    ii. Protection area lines: Roadsides used as access point for the fire that burned over with 50% vegetation mortality with adjacent weed infestations.
b. P1b. Invasives EDRR (Suppression EDRR) – extent all including outside the fire
    i. Suppression repair- surveys and treatment of dozer line and bladed ML1 roads; ground disturbing points and lines.
c. P2. Preventative seeding (see Botany Treatment Map for single P2 site) - Preventive seeding of an important small, localized habitat for this population of MacFarlane's Four O'clock plant, which is a T&E plant species that is endemic only to the Hells Canyon area. The treatment would be focused to a small **7-acre patch** using locally sourced native bunchgrass seed that would be acquired from the local unit's cache. Seed would be raked into the surface soil and then partially covered with a clean

mulch. The intent is to jump start and enhance the density of native bunchgrasses where the rare plant is an associate, to minimize effects from invasion by noxious weeds. Preventative seeding has been tried locally with mixed results. Success has been achieved on small sites where the habitat was in relatively good condition, and the seed was raked in and then covered by a mulch.

Channel Treatments:
No Channel Treatments are proposed.

Road Treatments:
Purpose of Treatment: The watersheds burned in the Double Creek Fire will show the effects of the fire via increased runoff rates, erosion, sediment, and debris transport creating a future concern for roads and associated drainage structures. The effects could result in filling the ditches, plugged culverts, and potentially overtopped or washed away road surfaces and fill slopes. Treatments are recommended to minimize the risks to public safety and protect the investment of the transportation system from the expected increased post-fire runoff.

General Description: Several road stabilization treatments (road drainage features, cross drain culverts, culvert clearing) have been prescribed for Forest Service Roads within the Double Creek Fire that will be directly impacted by post fire events. Three cross drain culverts are proposed for the Hat Point Road due to erosion concerns from the fill slope on a high priority road. Drivable dips were discussed at these three sites but determined to be ineffective due to incredibly steep, 10% plus road grade. If drain dips were constructed, they could both over steepen the road grade coming out of the dip and be fairly long and costly. They could add about an additional 4% grade coming from the top of the dip down to the existing road. Where the road is at 10% there would be a section of road that is now 14% grade, any spot that is 12% would be 16% (legal grade limit). To construct them they would also need to be longer than the normal 150' and could potentially be 300' plus in total length, adding considerable cost. Another concern is digging into an existing cut slope to build a dip where the vegetation has been lost and slope stability and rock fall are a concern. Dips would be constructed at the seasonal drainages to augment the existing pipe and protect the road from being completely washed out if a high flow event overwhelms the existing small diameter CMP. The dip will keep the flow crossing the road instead of running down and washing out the road. These treatments are necessary to mitigate the predicted effects that will occur to the transportation infrastructure system. Please see the Double Creek BAER Treatment map for road stabilization treatments.

Protection/Safety Treatments:

Purpose of Treatment: The purpose of "Burned Area Warning Signs" is to reduce the risks to human life and safety by alerting motorists and back country hikers of existing threats while traveling the authorized routes within the areas susceptible to flooding, debris flows, hazards trees, and all other risks attributable to post fire events on the landscape. Please see the Double Creek BAER Treatment map for specific locations.

Granny view overlook and interpretive site will need a physical closure device to prevent people from trying to access the destroyed boardwalk and viewing platforms via the paved nature trail.

Hazard tree falling is recommended to mitigate immediate unacceptable risk to life and safety at the Granny and Horse Creek overlooks because they are located on flat areas at the edge of the plateau where closures could be easily driven or walked around. There are several small clusters of medium- and large-sized, fire-killed trees at these sites that could be cut to mitigate the hazard. Cutting them would also lessen potential damage from falling trees and woody debris to a paved parking area, constructed rock walls, and a bathroom. It is estimated that a falling crew of two would need 2 days to

cut about 3 dozen hazard trees total at both sites. Travel time factoring into mobilization from the nearest services (lodging, fuel, emergency) is at least 1.5 hours one-way.

Cultural and Heritage Resources Treatments:
Of the dozens of sites assessed, only two sites are being recommended for prescribed treatment actions. These proposed actions include the cutting of several dozens of fire-killed trees immediately adjacent to the historic structures at the Memaloose Guard Station and Dorrance Cow Camp to prevent any further destruction to these buildings. The Dorrance site is far away from the main access road and only accessible using a UTV. It will necessitate an extended travel time. It's estimated that a falling crew of two would need several days and a possible overnight to cut several dozen trees at each of these places. Travel time factoring into mobilization from the nearest services (lodging, fuel, emergency) is at least 2.5 hours to the end of the jump off point to Dorrance, and another hour beyond by UTV. Additionally, a cover of mulch is recommended to be spread over specific features that have been exposed at the Dorrance site to conceal them, which would be completed by FS staff.

Recreational trails also run through the Dorrance Cow Camp (#1747). Hazard signs should be placed at each of the sites to advise recreational visitors of potential overhead hazards and to prevent entry into the burned structural remains where unknown and various household hazards exist.

I. Monitoring Narrative:

The effectiveness of the protection and safety treatments is highly dependent on monitoring and adaptive management. Monitoring will be done by District Staff as time and funding allow.

Appendix A: Maps


Double Creek_SoilBurnSeveri


DoubleCreekDebrisFlow_USGS.pdf


DoubleCreekBAER_SoilErosionIndex.pdf


DoubleCreek_BAER_TreatmentMap.pdf


DoubleCreekBAER_InvasivePlant_Treatmen

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

			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										
P1a. EDRR BAER (treatments	acre	400	32	$12,800	$0		$0		$0	
P1a.EDRR BAER (surveys)	acre	25	313	$7,825						
P1b. EDRR Suppression (treat	acre	300	55	$16,500						
P1b. EDRR Suppression (surve	acre	25	547	$13,675	$0		$0		$0	
P2. Preventative Seeding	acre	400	7	$2,800						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$53,600	$0		$0		$0	$0
B. Channel Treatments										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
R1. Storm Proofing	mile	1,750	20	$35,175	$0		$0		$0	
R2c. Waterbar	each	50	18	$900						
R2c. Waterbar w/ armoring	each	250	23	$5,750						
R3. Storm Inspection &Respon	mile	900	20	$18,090						
Storm Respons Heavy Equip	each	750	4	$3,000						
R2b. 24" Cross Drain Pipe	each	4,000	1	$4,000						
R2b. 18" Cross Drain Pipe	each	3,120	5	$15,600	$0		$0		$0	
R15. Implementation Team (O	days	415	10	$4,150						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$86,665	$0		$0		$0	$0
D. Protection/Safety										
S1a. Road Warning Signs	each	650	8	$5,200	$0		$0		$0	
S1b. Trail Hazard Signs	each	550	20	$11,000	$0		$0		$0	
S3. Hazard Tree Falling	site	8,300	2	$16,600						
S2. Physical Closure Devic	each	2,500	1	$2,500						
H1. Heritage & Cultural Res	each	8,300	2	$16,600						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety	each			$51,900	$0		$0		$0	$0
E. BAER Evaluation										
Initial Assessment	Report	200,00	1		$0					$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$192,165	$0		**$0**		**$0**	**$192,165**
Previously approved										

PART VII - APPROVALS

1. SHAUN MCKINNEY Digitally signed by SHAUN MCKINNEY Date: 2022.10.21 11:07:50 -07'00'

Forest Supervisor Date