Date of Report: 10/13/2020

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: Thielsen

B. Fire Number: OR-UPF-000441

C. State: OR

D. County: Douglas

E. Region: R6

F. Forest: Umpqua National Forest

G. District: North Umpqua

H. Fire Incident Job Code: P6NKN (0615)

I. Date Fire Started: 9/8/2020

J. Date Fire Contained: 69% (as of 10/4/2020)

K. Suppression Cost: $9,034,102 (as of 10/4/2020)

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

1. **Fireline repaired (miles): 1.1 mile (as of 10/4/2020)**
2. **Other (identify):**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
1710030103	Clearwater River	49,306	430	0.87%
1710030102	Headwaters North Umpqua River	76,705	9,047	11.79%
1710030101	Diamond Lake	42,903	489	1.14%

N. Total Acres Burned: 9,951 acres (as of 10/3/2020)

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	9,951
OTHER FEDERAL (LIST AGENCY AND ACRES)	0

OWNERSHIP	ACRES
STATE	0
PRIVATE	0
TOTAL	9,951

O. Vegetation Types:

The Thielsen Fire is dominated by Douglas fir (*Pseudotsuga menziesii*) and Ponderosa pine (*Pinus ponderosa*) forest structures to the west of the Hwy 138 corridor and Lodgepole pine (*Pinus contorta*) forest structures along the corridor and to the east. Within the lower elevations of the burned area (4,700-5,500 ft) the understory is dominated by typical South Cascade dry forest species such as snowbrush (*Ceanothus velutinus*), manzanita (*Arctostaphylos patula* and *nevadensis*) and grouse whortle berry (*Vaccinium scoparium*). In higher elevations (5500-7000 ft) the understory is still comprised of the above species but with the addition of Kinnikkinnick (*Arctostaphylos uva-ursi*), Mahala mat (*Ceanothus prostratus*) and dryland sedges (*Carex inops*).

P. Dominant Soils:

Dominant soils originate from Mazama pumice deposits and glacial material. Soils range from sands, loamy sands, and ashy sandy loams with varying amounts of rock content, generally increasing with depth. Course rounded popcorn pumice layers as well as gravels, cobbles, stones of andesite and basalt are common subsoils features. These soils are generally deep with rapid infiltration.

Q. Geologic Types:

The fire area is composed of five geologic units. 1) Pleistocene glacial deposits (e.g. moraines composed of bouldery gravel, sand, and rock flour) and 2) rhyodacitic to andesitic ash-flow deposits related to Mount Mazama dominate the landscape west of Highway 138 Scenic Byway. The landscape east of the highway is composed of Pleistocene glacial deposits, 3) Mazama pumice deposits, 4) basaltic andesite flows and flow breccia, and 5) basaltic and andesitic cinder cones.

A north-south trending slope break runs east of, and parallel to, Hwy 138 Scenic Byway. The landscape to the west of this slope break is hummocky, with mostly gentle slopes. Lake Creek appears to be incising into the glacial and ash-flow deposits in several locations. The landscape to the east of Hwy 138 Scenic Byway slopes westward at approximately 30-40 %. No mapped faults are located within the fire area.

R. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES
PERRENIAL (FISH BEARING)	3.53
PERRENIAL (NON-FISH BEARING)	12.36
INTERMITTENT	12.38

S. **Transportation System:**

Trails: *National Forest (miles):* 24.6 *Other (miles):*

Roads: *National Forest (miles):* 14.62 *Other (miles):* 2.51

PART III - WATERSHED CONDITION

A. Burn Severity (acres) (as of 9/28/2020):

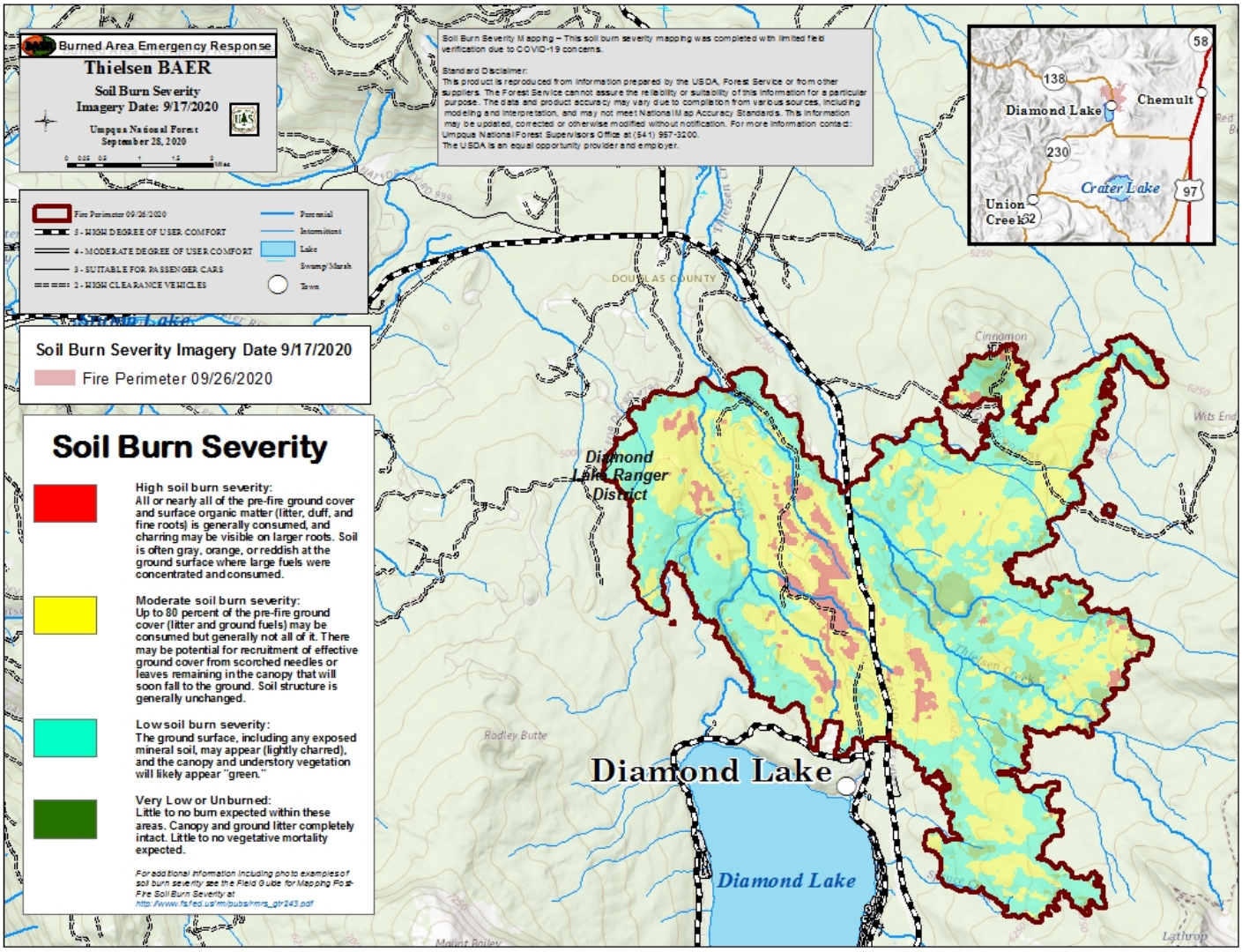
Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Total	% within the Fire Perimeter
Unburned	913.9		9
Low	4,170		42
Moderate	4295.1		43
High	541.8		5
Total	9921.2		100

Figure 1. Soil Burn Severity Map – Thielsen Fire

B. **Water-Repellent Soil (acres):** 9,008 ac (High - 542 ac; Moderate - 4,295 ac; Low - 4,171 ac)

C. Soil Erosion Hazard Rating: Low: 1,525 ac (15% fire); Moderate: 5,350 ac (54% fire); High: 3,052 ac (31% fire)



D. Erosion Potential:

Slope	Severity	Soil Erosion Estimates (tons/acre)	% of fire
0-30%	**High**	6.38	**5%**
	Moderate	5.11	**41%**
	Low	3.10	**38%**
30+%	**High**	**19.70**	**.1%**
	Moderate	**14.81**	**2%**
	Low	7.19	**4%**

E. Sediment Potential: 1,280-8,141 cubic yards per square mile (based on ranges from the above table)

F. Estimated Vegetative Recovery Period (years):
The estimated vegetation recovery time for the vegetative cover is expected to be approximately 2-5 years. Some high severity spots with poorer site conditions will take longer to recover.

G. Estimated Hydrologic Response (brief description):

Hydrologic effects anticipated from the Thielsen fire include moderately increased runoff and peakflows resulting in increased sediment movement in proximity to the streams. Changes to channel morphology from increased annual peak flows and runoff velocities include stream bed erosion, streambank instability, and instances of lateral channel migration. Higher in the watershed, minor scour and incision in low order channels is expected. In contrast, further downstream the primary effect is aggradation due to decreased channel gradient, increase in channel roughness features, and floodplain connectivity. However, under peakflow conditions, fine-grain volcanic sediments will likely remain mobilized until they can settle out in either deeper pools or when they reach Lemolo Reservoir. These responses are expected to be most noticeable early on and during large storm events and will become less evident as vegetation is reestablished and soils stabilize. Localized and short-term stream temperatures are also likely to increase following this wildfire, primarily from removal of the vegetative canopy. The estimated vegetation recovery time for the vegetative cover is expected to be approximately 2-5 years. Some high severity spots with poorer site conditions will take longer to recover.

PART V - SUMMARY OF ANALYSIS

Introduction/Background
The Thielsen Fire was detected on September 8, 2020 at approximately 8:30 a.m. after lightning passed through the area. The fire is on the Diamond Ranger District of the Umpqua National Forest, approximately 5 miles north of Crater Lake National Park. It has burned within one mile of the Diamond Lake Resort, along both sides of Oregon Highway 138 and a small portion of the Mount Thielsen Wilderness. The fire (as of 10/6/2020) encompassed 9,975 acres primarily in a mix of Lodgepole pine and Ponderosa pine/Douglas fir forest. The fire burned in a mosaic paten through most of the area. The majority of the fire burned with low and moderate intensity.

Due to concerns regarding the COVID19 pandemic, the National BAER Direction (dated June 15, 2020) made several changes to BAER and Best Management Practices (BMP) monitoring for 2020. Greater emphasis was placed on a local BAER team; completing the COVID-19 risk assessment worksheet; using remote assement technology and virtual assessment to the greatest extent possible and focusing the assessment primarily on life and safety. The Thielsen BAER team met all guidance of the 2020 direction by having only local forest staff physically on-site; having off-forest staff complete the assignment virtually; and minimizing all field-work. As a part of this, the initial burned area reflectance class (BARC) imagery was accepted and converted to a soil

burn severity (SBS) map based on professional judgement by the forest's soil scientist.

A. Describe Critical Values/Resources and Threats (narrative):
Critical Values identified during the BAER assessment that have potential to be Values at Risk as defined in FSM 2523.1 include human life and safety of employees and public, FS property (roads, trails, administrative, recreation infrastructure), cultural resources, natural resources including Threatened and Endangered species habitat, native plant communities, soil and water resources. The BAER team evaluated the risk to these critical values in accordance with the Interim Directive No. 2520-2019 by using the BAER risk assessment. The Thielsen Fire Critical Value at Risk table is attached as Appendix.

Table 5: 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):
The Thielsen fire are is surrounded by multiple communities that utilize the Umpqua National Forest for a variety of multiple-use activities including Native American use, recreation, hunting and fire-wood gathering. The post-fire environment on the Thielsen fire includes increased threats to the general public, and Forest Service employees who could work, travel through and recreation on National Forest System lands. Threats to human life and safety include danger trees, increased risk of rock fall and debris flow, and road failure due to increased post fire runoff and debris flow. As part of fire suppression and suppression repair efforts, there was an effort to mitigate of danger trees. This effort helped mitigate for some risks within the Thielsen fire perimeter. However, it is expected that the threat of hazard trees will continue throughout the fall/winter/spring for 2020-2021.These threats exist along numerous roads and trails (see Critical Values at Risk table) where people could travel.The probability of damage/loss of life/safety along these roads/trails is *likely/possible* and the magnitude of consequence of human life and safety is *major*; thus the risk is *very high/high*.

2. **Property (P):**
The Thielsen fire includes 14.62 miles of National Forest System Roads (FSR) and 24.6 miles of National Forest System trails within the burned area. The post-fire conditions in combination with the watershed response indicate that there will be increased risk of road and trail failure due to rock fall and debris flow. It is expected that debris flow originating from the Thielsen Creek watershed could cause mobilized material to flow onto roadways and clog/block culverts beneath roadways, which could cause localized flooding. As ditches, culvert inlets and roadway dips become compromised, they become vulnerable to failure and may result in loss of the property and/or structure. Highway 138 is a heavily used scenic Byway that is not managed by the Forest Service. The largest risk to National Forest Systems trails is the numerous hazard trees along the trails; loss of tread and debris flow onto trail systems. It is expected that the threat of hazard trees will continue throughout the fall/winter/spring of 2020-2021. Increased run-off and debris could cause loss of tread and/or complete loss of trails (see Recreation-Trails report for more details). The probability of damage/loss of property along these roads/trails is *likely/possible* and the magnitude of consequence of property loss is *major*, thus the risk is *very high/high/intermediate* for roads and trails.

3. Natural Resources (NR):
Soil
Dominant soils originate from Mazama pumice ash deposits and glacial material. Soils range from sands, loamy sands, and ashy sandy loams with varying amounts of rock content, generally increasing with depth. Course rounded popcorn pumice layers as well as gravels, cobbles, stones of andesite and basalt are common subsoils features. These soils are generally deep, well drained, with rapid infiltration. The Mazama ash soils are a highly valued natural resource and cannot be replaced, therefore it is recognized as a critical BAER value. Overall it was determined a large scale erosion response in not expected based on: minimim amount to high SBS-5%; 2% of the fire is expected to have higher erosion rates; field observations of soils response after a few rain events; mostly moderate soil erosion hazard ratings; and softer slope terrain in much of the fire. Based on these findings,

the probability of damage/loss was *unlikely*. The magnitude of consequence if mazama ash were lost is *major*; thus the risk is *intermediate* for soils natural resource.

Wildlife
The Thielsen fire burned within a small portion of spotted owl suitable habitat and designated critical habitat. There are two historic (1990s) spotted owl cores that were impacted by the Thielsen fire and approximately 1,714 acres of spotted owl critical habitat. Within the fire perimeter, 352 acres of suitable habitat experienced high vegetation mortality and 188 acres had moderate (76%-90%) mortality. This mosaic pattern of burn severity can have short term beneficial effects for spotted owls by increasing prey availability with the fire area. However, habitat use by prey species decreases as the vegetation structure changes and over time habitat quality can degrade. The probability of loss of northern spotted owl suitable and critical habitat is *likely/very likely* based on vegetation mortality. However, based the amount of habitat within the fire perimeter and the limited number of affected historical territories, the magnitude of consequence is *minor*; thus, the risk to NSO is *low*.

The Thielsen fire also impacted a small area of the Indigo wolf pack's areas of known wolf activity (AKWA). The Indigo group was first detected on the Umpqua National Forest in 2018 and had established pack status by spring of 2019. Although there are no known den or rendezvous sites for this pack, impacts from this fire will likely be minimal. Wolves will use a variety of land cover types provided adequate prey exists. The increase of foraging from ungulates and small mammals after a fire may have temporary benefits to wolves due to increase use of prey availability. The probability of loss of grey wolf habitat is *unlikely* and the magnitude of loss is *minor*; thus, the risk to grey wolves is *very low*.

Botany
Aggressive perennial invasive plants are present within the burned area, primarily on travel routes. These infestations are within or adjacent to burned areas, and several survey and manage fungi species important for old growth forest structure. Invasive plants are highly adapted to take advantage of early seral conditions created after fire and can out compete native plants for resources. The primary corridor (Hwy 138) used for accessing the fire contained populations of diffuse and spotted knapweed. There are not many invasive species currently mapped away from the main road corridor and, as this area is adjacent to wilderness, there is risk of loss of the wilderness character for this natural area. Spread of invasive plants into un-infested areas due to conditions created by the fire pose direct competition for resources including water, nutrients, above and underground growing space, allelopathy, changes in microhabitat, and direct suppression and mortality. Decreases in native plant diversity by reducing habitat for native plant species and wildlife and shifts from diverse native plant communities to non-native invasive plant dominance in dry habitats alter future fire behavior, intensity, extent, and season of burning. Invasion of burned areas by non-native invasive plant species could lead to a loss of local plant populations that result in a loss of species viability. The probability of damage and loss is *Likely* to native plant populations due to invasive plants species adjacent to previously uninfested areas that have been burned at a moderate to high intensity. The magnitude of consequence is *Moderate* due to impacts of soil burn severity decreasing soil productivity for native plant communities and deterioration of habitat and direct competition from invasive plants spreading along suppression lines into previously un-infested areas that inhibit regeneration of native plant species. Thus, the risk is *High* for botanical resources.

4. Cultural and Heritage Resources:
Three resources were identified as values at risk within the Thielsen Fire (two historic sites and one multicomponent site). When assessing the multicomponent site, a culturally-modified tree site likely associated with Native American use, additional features were present outside of the previously documented boundary. This site was severely burned, and damage occurred to all the resources visited. They suffered irreversible loss of archaeological data because of the fire.

One of the historic sites (a Civilian Conservation Corps wooden stave culvert) was unaffected by the fire as it was in an area not burned. The remaining historic site (can and bottle refuse associated with dispersed camping and a Humboldt bridge stream crossing) was observed in a mosaic of moderate to high burn severity area but was largely unaffected by the fire. Upon evaluating all of the cultural resource values at risk the

probability of damage or loss was found to be *likely* due to the burn severity observed and the loss of data from the resources as described above. The magnitude of consequences (loss of scientific data present in archaeological deposits) is *major*, making the risk *very high*. No treatment recommendations were made to the three resources, either due to limited effects from fire or due to the unlikelihood of success for any reasonable treatment. It is recommended that the current observable extent of the multicomponent site be documented, and monitoring occur in the spring of 2021.

Archaeological surveys will be necessary to protect heritage values at risk from impacts of implementing other BAER treatments. It is important that there is coordination between heritage resource specialists and other specialists in the implementation phase so cultural resources are not lost or damaged during treatment implementation. To avoid damage to cultural resources by equipment and actions during implementation and comply with Section 106 of the National Historic Preservation Act qualified archeologists will perform assessment of the work sites and the proposed activities.

B. Emergency Treatment Objectives:

The primary objective of this Burned Area Emergency Response Report is to recommend treatments 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). These treatments are expected to substantially reduce the probability of damage to identified BAER critical values. Below, the objectives are the proposed treatments are included.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: 90
Channel: N/A
Roads/Trails: N/A
Protection/Safety: 60

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	***3 years after treatment***	***5 years after treatment***
Land	75	75	80
Channel	N/A	N/A	N/A
Roads/Trails	N/A	N/A	N/A
Protection/Safety	80	80	85

E. **Cost of No-Action (Including Loss**): The significance of protecting human life and safety is assumed to self-evident and not included in this calculation. For natural resources, there is an imminent threat to recover, native vegetation and ecosystem diversity. The risk of invasive species could affect wilderness and recreation areas. The assessed value of native plant communities in the threatened area is $21,772.

F. Cost of Selected Alternative (Including Loss): $75,343

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☒ Engineering ☒ GIS ☒ Archaeology
☒ Weeds ☒ Recreation ☒ Fisheries ☒ Wildlife
☒ Geology

Team Leader: “Andy” Mark Casillas
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Assistant Team Leader: Anne Poopatanapong

Email: anne.poopatanapong@usda.gov **Phone(s)** 971-201-9489

Forest BAER Coordinator: Joseph Blanchard
Email: joseph.blanchard@usda.gov **Phone(s):** 541-957-3356

Team Members: *Table 7: BAER Team Members by Skill*

Skill	Team Member Name
Team Lead(s)	Andy Mark Casillas; Anne Poopatanapong
Soils	Sarah Brame, Leslee Crawford
Hydrology	Mark Sommer
Engineering	Steve Hanussak; Robert E. Lee
GIS	Christopher Strobl; Dorothy Thomas
Archaeology	Christopher Kelly; Amber Nelson
Weeds	Helen Lau; Crystal Shepard
Recreation	Sklyer Ogden; Vern Shumway
Fisheries	Eric Merten
Wildlife	Errin Trujillo; Courtney Dever
Geology	Edward Gazzetti

H. Treatment Narrative:

Land Treatments

L-1: Early Detection Rapid Response (EDRR) – It is critical to perform EDRR actions for invasive plants in the spring and fall of 2021. Early detection and treatment of invasive plants is critical to prevent establishment. Treatment is most effective when infestations are small, and it is critical to treat the infestations before they can produce seed. EDRR would be used to survey, treat, and monitor invasive plants (noxious weeds) in moderate severity burn areas adjacent to roads and trails and on dozer line. There are approximately 145.41 acres of prescribed EDRR treatment in the Thielsen Fire. This work should be at the discretion of the local botanists or invasive coordinator and their local knowledge of these invasive plant populations.

Table 7. Treatment Areas see map in *Botany Specialist Report*

BAER EDRR			
Disturbance Form	**Buffer (ft)**	**Acres**	**Notes**
Trails and Roads	20	67.84	High/Mod soil burn severity
Invasive plant buffers	20	77.57	
Subtotal		**145.41**	
Suppression EDRR			
Disturbance Form	**Buffer (ft)**	**Acres**	**Notes**
Landings/Staging areas/Drop points	0	4.15	within the fire perimeter
Dozer lines	0	41.16	within the fire perimeter
Subtotal		**45.31**	
Total acres to be treated:		**190.72**	

Table 8. Treatment Costs

Rehabilitation Item	Unit	Cost	Description of costs
BAER EDRR (145.41 acres)	$35 /per Acre	$10,178.70	Spring 2021 and Fall 2021 Early detection rapid response surveys and treatment along roadsides, trails and adjacent to known populations.
Suppression EDRR (45.31 acres)	$35 /per Acre	$3,171.70	Spring 2021 and Fall 2021 Early detection rapid response surveys and treatment on the dozer line/drop points/staging areas
Total Cost of Treatment:		**$13,350.40**	Complete all recommended BAER EDRR and Suppression activities associated with Thielsen Fire

Channel Treatments n/a

Roads and Trail Treatments

R-1: Storm Inspection and Response - Roads and trails within the Thielsen Fire contain drainage structures that cross streams located in watersheds that have a high to moderate burn severity. These streams now have the potential for increased runoff and debris flows. These increases in flows pose a threat to the existing crossings which may result in plugging drainage structures or exceeding their maximum flow capacity. If these flows plug drainage structures the result could be massive erosion and debris torrents further down the drainage due to the failure. Storm inspection/response keeps culvert and drainage structures functional by cleaning sediment and debris from the inlet between or during storms. Storm patrol are intended for the following locations: 1. Road crossings where loss of control of water or exceedance is identified; 2. Road crossings where high sediment and debris is anticipated; 3. Roads susceptible to landslides; and 4. Areas of high and moderate soil burn severity and 5. Roads with all-season surfacing (aggregate or asphalt). 6. Trails where tread loss will occur during storm events.

All other roads within the fire perimeter may be patrolled as necessary depending on the storm magnitude and location.

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**		**COST/ITEM**
Storm Patrol, 10 days x $3,000/day ($1,951 per mile)		$30,000
TOTAL PERSONNEL SERVICE COST		**$30,000**
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X # Fiscal Years = Cost/Item		**COST/ITEM**
Contract preparation, inspection 5 days at $700 per day		$3,500
TOTAL TRAVEL COST		**N/A**
JURISDICTION	**UNITS TREATED**	**COST**
USFS, Diamond Lake Ranger District	15 miles	$2,333.33
TOTALS		**$33,500**

R-2: Road Drainage Reconstruction/Storm Proofing – The following roads: 1. Road 4792 MP 2.08 to 4.19 Clean inlet and outlet and stream upstream channels; 2. Road 4792-700 MP 0.00 to 0.56 Clean inlet and outlet and stream upstream channels; 3. Highway 138 MP 73.12 Brush and clean inlets and outlets; 4. Highway 138 MP 73.43. Inlets and outlets were identified with having issues with drainage due to the expected increase in flows. Recommended treatments include 1) Culvert Cleaning – Remove any blockages from inlet, outlet and inside barrel. Straighten bent inlets. Catchment-basins shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event. 2) Ditch Cleaning – All drain ditches along the length of the roads shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event.

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
Storm Proofing: equipment and materials	
$3000 per day for 3 days	$9,000
Hand crew $1,000/Day X 1 Day	$1,000
TOTAL PERSONNEL SERVICE COST	**$10,000**

Overhead and Contract Costs		COST/ITEM
Contract preparation, inspection, monitoring. 2 days at $700 per day		$1,400
TOTAL TRAVEL COST		**$11,400**
JURISDICTION	**UNITS TREATED**	**COST**
USFS, Umpqua National Forest	1	$11,400
TOTALS	**1**	**$11,400**

R-3: Hazard Warning Signs - Install warning signs for flash flooding and potential debris flows. Replace warning and directional signs damaged by the fire. Install "Entering Burned Area Fallen Rock and Debris" signs where necessary to properly alert the travelers of the dangers ahead. "Entering Burned Area, No Stopping Next 3 Miles" should be installed to notify travelers of the dangers along Highway 138. Road warning signs will be located at critical points when entering the fire area. Sign locations are located on the BAER treatment map (Figure 2).

Table 9. Road Hazard Sign Locations

Road	Location Description	Sign Text
4790	At Mile Post 1.45	Entering Burned Area Fallen Rocks and Debris
4790	At Mile Post 3.33	Entering Burned Area Fallen Rocks and Debris
4792	At Junction of the 4792 & 4795	Entering Burned Area Fallen Rocks and Debris
4792	At Junction of the 4792 & 4792-710	Entering Burned Area Fallen Rocks and Debris
4793	At Mile Post 0.12	Entering Burned Area Fallen Rocks and Debris
4795	At Mile Post 10.87	Entering Burned Area Fallen Rocks and Debris
Hwy 138	At Mile Post 76	Entering Burned Area, No Stopping Next 3 Miles
Hwy 138	At Mile Post 79	Entering Burned Area, No Stopping Next 3 Miles

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	
Laborer	$1500 $2400
Entering Burned Area Fallen Rocks and Debris Warning Signs, 6 @ $40/Each	$400
Entering Burned Area, No Stopping Warning Signs x 2@ $200/Each	
4X4X12 Posts and Hardware for Burned Area No Stopping Signs, 4 @ $50/Each	$200
4X4X10 Posts and Hardware for Burned Area Fallen Rocks and Debris, 5 @ $40/Each	$200
TOTAL PERSONNEL SERVICE COST	**$4,700**
Overhead and Contract Costs and Travel Cost	**COST/ITEM**
Contract preparation, inspection	$800
TOTAL OVERHEAD AND TRAVEL COST	**$800**

JURISDICTION	**UNITS TREATED**	**COST**
USFS, Diamond Lake Ranger District	7	$5,500
TOTALS	**7**	**$5,500**

R-4: Road Burned Area Signs - Inform users of the dangers associated with entering/recreating within a burned area as well as inform them of the aware off hazards present. All signs will meet Federal Highways Specifications FP-14. The following roads have been identified for "Burned Area ahead" signage: 4792 @ the Junction 4792 & 4795 Junction; 4792 @ the Junction 4792 & 4792-710 Junction; 4793 @ the Junction 4793 & Hwy 138; and 4795-005 @ the Junction 4795 & 4792-005 Junction.

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**		
Laborer		**$450**
4X4x12' Posts and Hardware for BURNED AREA Warning Signs, 4 @ $50 /Each		**$200**
4X4x10' Posts and Hardware for BURNED AREA Warning Signs, 3 @ $40 /Each		**$120**
Entering Burn Area Fallen Rock and Debris x 3 @ $150/Each		**$450**
Entering Burn Area Fallen Rock and Debris x 2 @ $300/Each for HWY 138		**$600**
Rent post hole digger		**$300**
TOTAL PERSONNEL SERVICE COST		**$2,120**
Overhead and Contract Costs and Travel Cost		**COST/ITEM**
Contract preparation, inspection		$450
TOTAL OVERHEAD AND TRAVEL COST		**$450**
JURISDICTION	**UNITS TREATED**	**COST**
USFS, Diamond Lake Ranger District	7	$2,570
TOTALS	**7**	**$2,570**

R-5 Trail Warning Signs - Inform users of the dangers associated with entering/recreating within a burned area as well as inform them of the aware off hazards present. The following trails have been identifying for signs Howlock Mountain, Spruce Ridge, Cinnamon Butte XC ski, Wits End XC ski, and Lemolo Lake snowmobile trails. Communication with Diamond Lake Resort, Douglas County Sherriff's Office, local snowmobile clubs, and public user will need to occur because these trails all have significant value to these groups.

Signs to notify and warn the public of the hazards Sign to be installed with storm proofing contract 2 days needed.				
Facility/Trail Name	**Trail Number**	**Approx. Burned Length in Miles**	**Number and location**	**Cost including posts, sign, hardware**
Howlock Mountain Trail	1448	3.5 miles	(1) at East end	$90
Spruce Ridge Trail	1458	2.5 miles	(1) intersection of Spruce Ridge and Mt. Thielsen Trail	$90
West Lake Trail	1452A	.1 miles	(2) one at each end	$180
Northern Exposure Ski Area	SNO-1589R	10 miles	(1) At trailhead	$90
Howlock Mountain TH	N/A	N/A	(1) at trailhead	$90
Hill Top Shop (main snowmobile parking and rental location)	N/A	N/A	(2)	$180
Junction 10 (see snowmobile map)	N/A	N/A	(2)	$180

Total				**$900**

Protection/Safety Treatments

P-1: Hazard Tree Removal (roads) - The burn area is a common, well utilized, and popular recreation area for both summer and winter recreation activities. Information provided by local staff and forest leadership indicates that typical closure measure including, administrative closure, signs and barricades/gates are not effective in enforcing area closures. In leu of standard closure treatments, hazard tree removal up to and including 150 ft. from all roads affected by the fire is requested.

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	
Tree Felling and Decking 9.1 miles of road Flagger and pilot care 5 days	$91,000 $10,000
TOTAL PERSONNEL SERVICE COST	**101,000**
Overhead and Contract Costs and Travel Cost	**COST/ITEM**
Contract preparation, inspection	$800
TOTAL OVERHEAD AND TRAVEL COST	**$800**

JURISDICTION	**UNITS TREATED**	**COST**
USFS, Diamond Lake Ranger District	18	**101,800**
TOTALS	**18**	**101,800**

P-2: Hazard Tree Removal (trails) - The burn area is a common, well utilized, and popular recreation area for both summer and winter recreation activities. Information provided by local staff and forest leadership indicates that typical closure measure include, administrative closure, sign and barricades/gates are not effective in enforcing area closures. In leu of standard closure treatments, hazard tree removal up to and including 150 ft. from all trails affected by the fire is requested.

PERSONNEL SERVICES (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item **Do not include contract personnel costs here (see contractor services below).**	
Tree Felling and Decking 3.6 miles of trail Flagger and pilot care 2 days	$36,000 $4,000
TOTAL PERSONNEL SERVICE COST	**$40,000**
Overhead and Contract Costs and Travel Cost	**COST/ITEM**
Contract preparation, inspection	$800
TOTAL OVERHEAD AND TRAVEL COST	**$800**

JURISDICTION	UNITS TREATED	COST
USFS, Diamond Lake Ranger District	24	**$40,800**
TOTALS	**24**	**$40,800**

I. Monitoring Narrative: Implementation monitoring would occur on roads that lead to critical life and safety infrastructure. Utilize Storm Patrol to monitor road drainage structures after significant storm events to ensure the maximum drainage capacity is maintained until the natural re-vegetation of the burned area has occurred. Monitoring, survey, and treatment are all part of the Early Detection and Rapid Response (EDRR) recommendation for invasive plants (noxious weeds) treatment. This will occur for the first year following the containment of the fire and will occur in moderate severity burn areas adjacent to roads and trails and on dozer line. No additional funding is requested for monitoring.

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										
Early Detection Rapid Response	each	13,350	1	$13,350	$0		$0		$0	$13,350
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$13,350	$0		$0		$0	$13,350
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Protection and Safety Treatments										
Hazard Tree Removal (Roads)	each	101,800	1	$101,800	$0		$0		$0	$101,800
Hazard Tree Removal (Trails)	each	40,800	1	$40,800	$0		$0		$0	$40,800
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$142,600	$0		$0		$0	$142,600
D. Road and Trail Treatments										
Road Closure Signs	each	367	7	$2,570	$0		$0		$0	$2,570
Road Hazard Signs	each	786	7	$5,500	$0		$0		$0	$5,500
Storm Patrol	each	33,500	1	$33,500						$33,500
Trail Warning Signs	each	90	10	$900						$900
Road Drainage Reconstruction/Storm Proofing	each	11,400	1	$11,400						$11,400
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$53,870	$0		$0		$0	$53,870
E. BAER Evaluation										
Initial Assessment	Report			$78,658	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$78,658	$0		$0		$0	$0
F. Monitoring										
				$0	$0		$0		$0	$0
				$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				$288,478	$0		**$0**		**$0**	**$209,820**
Previously approved										
Total for this request				**$288,478**						

PART VII - APPROVALS

1. /s/ Alice B. Carlton 10/13/2020
   Forest Supervisor Date