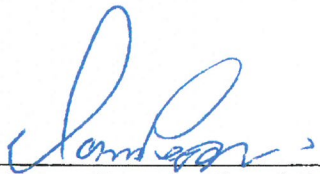


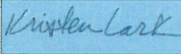
**FIRE SUPPRESSION REPAIR PLAN
for the
SRF Lightning Complex**

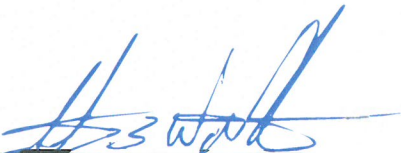
**Six Rivers National Forest
Lower Trinity Ranger Districts**

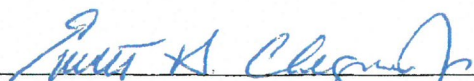
USDA Forest Service

August 26, 2022

Prepared by: 
Donna Peppin, Lead Resource Advisor
Six Rivers National Forest

Approved by:  Digitally signed by
KRISTEN LARK
Date: 2022.08.26
12:51:22 -07'00'
Kristen Lark, Acting Forest Supervisor
Six Rivers National Forest

Approved by: 
Steve Watkins, Incident Commander
California Team 14 Incident Management Team

Reviewed by: 
Everett Colegrove, Designated Hoopa Tribal Government Representative

OVERVIEW

Implementation of this fire suppression repair plan will be in compliance with all pertinent rules and regulations regarding fire suppression activities, including policies covered in FSH 6509.11g_50. For all actions occurring on National Forest Lands this repair plan shall comply with management direction, standards, and guidelines in the respective *Land and Resource Management Plans* for Six Rivers National Forest. Damage to State, County, and private lands caused by wildland fire suppression activities will be repaired only to the minimum extent needed to immediately correct the damage to prevent further loss or injury. Additional repairs desired by any landowner are the responsibility of the landowner or must follow the compensation claim process. Prescriptions for the treatment of the various fire suppression activities, as well as the responsibility for implementation are indicated in the following narrative.

Elements of this fire suppression repair plan are organized in two stages of implementation in order to clearly define the timing of activities in relation to fire behavior and available line personnel.

Implementation of **Stage 1** suppression repairs will be the responsibility of the Incident Management Team (IMT) in place when the timing is right to accomplish the repairs to the most practical extent possible. Suppression repair activities will be coordination with the Lead Resource Advisor (READ) and Suppression Repair Specialist, the assigned Hoopa Tribal Representative. Assigned Resource Advisors will develop a list of needed repairs and approve listed repairs as they are completed to their appropriate specifications. All repair activities that can be accomplished without compromising control of the fire will be implemented.

Implementation of **Stage 2** suppression repairs will be a shared responsibility of the Incident Management Team and the Six Rivers National Forest. The Incident Management Team will be expected to complete as much Stage 2 repair as possible as fire conditions warrant. The agency administrator representative (AAREP), the Lead READ, and the assigned Hoopa Tribal Representative will work closely with the IMT on the expectations of Stage 2 repair. The Hoopa Tribal Representative will be engaged on any suppression repair within Hoopa Valley Indian Reservation. Based on specific resource concerns and monitoring efforts, repair work of fire suppression damage will occur at a time when repair processes do not compromise fire containment (e.g., placing mulch, tree limbs, etc. on fire containment lines).

During both Stage 1 and Stage 2 repairs, all repairs and completion status will be verified on the ground by resource advisors and tracked in Field Maps. Status of repairs will be presented in electronic map format. Spatial tracking of repairs and completeness is ongoing throughout suppression repair operations. Repair status will be communicated from the Lead READ to the IMT Operations daily.

The overall objective of this plan is to repair damage caused by fire *suppression activities*, and to return the affected area to pre-fire conditions as close as possible while minimizing environmental and cultural impacts. Deleterious effects and damage to resources caused by the *wildfire* itself are not considered under this plan, but instead fall under a Burned Area Emergency Response analysis.

This plan has been approved by the Incident Commander of the IMT. Any additions or clarification of guidelines will be incorporated by addendum. All suppression repairs will be charged to fire code **0510 P5PY38**.

Suppression Repair Objectives:

- 1) Minimize surface and gully erosion.
 - a. Minimize sediment delivery to stream channels.
 - b. Restore drainage systems to pre-fire drainage patterns.
- 2) Minimize loss of soil productivity due to potential erosion in cleared areas.
- 3) Minimize the introduction and spread of noxious weed infestations.
- 4) Repair fire suppression activity damage to NFS roads and trails.
- 5) Restore facility areas used by suppression resources (e.g, campgrounds).
- 6) Repair impacts to cultural and historic resources, only as recommended by SRF Heritage Program Manager.
- 7) Treat fuels created during fire suppression activities.
- 8) Minimize damage to impacted meadows and wetlands.
- 9) Repair suppression impacts to Designated Wilderness, Inventoried Roadless Areas and Wild and/or Scenic River Corridors.

These objectives will be reviewed and validated by the Lead Resource Advisor assigned by the responsible agency.

Stage 1 repairs will occur on roads, trails, fire lines, drop points, staging areas, spike camps, helispots, water drafting sites, and all other facilities used by suppression resources. Examples of Stage 1 repairs include: erosion control measures (water bars, rolling dips, road berm removal, etc.), grading, ditch clearing, decking of felled trees along utilized system roads, restoring drafting sites and water crossings, and removing all trash, cached supplies, and hose lays from the fire area. Stage 1 repairs—in contrast to Stage 2—are prioritized by the urgency in properly controlling erosion and Forest-user safety prior to the onset of winter precipitation. *Implementation of Stage 1 repair activities will be negotiated and agreed upon between the IMT Operations and the Lead Resource Advisor.*

Stage 2 repairs for damage caused by fire suppression efforts include but are not limited to hand and machine piling of slash on firelines and preventing vehicular access to formerly closed roads and dozer lines (log & earthen berms, boulders, etc). These repairs could also include mulching & seeding of firelines, chipping accessible slash piles, among other measures. These repairs will occur at the appropriate time(s), generally after Stage 1 activities have been completed; typically, these take place after the fire has been contained. *Implementation of Stage 1 repair activities will be negotiated and agreed upon between the IMT Operations and the Lead Resource Advisor.*

GENERAL REPAIR GUIDELINES

Unless otherwise recommended by the Lead Resource Advisor, the following guidelines will be followed during suppression repair. Field-going Resource Advisors will identify all repair needs (see Appendix F) and verify their successful completion to the Lead Resource Advisor.

STAGE 1

A. Heritage (Archaeological, Cultural, and Historical) Resources

1. “Repairs” can cause further damage to archaeological sites and hinders their evaluation. No repair work may commence within known heritage and archaeological resource sites boundaries without consultation with an assigned Archaeologist and the Hoopa Tribal Representative, and/or and the lead Resource Advisor to the fire.
2. Where repairs are allowed, it must be done by hand or as authorized by Lead READ.
3. *If identified sites are encroached upon or previously unidentified sites encountered during suppression repair, work will stop immediately and the IMT Operations, and Lead READ will be notified.*

B. Firelines (Hand and Dozer)

1. Construct water bars and/or rolling dips on all firelines where surface erosion is likely to be a concern.
 - Waterbar design and placement should follow the intent of the attached specifications (Appendices A and B – see specification depths for dozer and handline) and be implemented according to the terrain and soil types present at each fire line.
 - Highly erodible, steep slopes may warrant more frequent water bar placement than the guidelines indicate. Back-blading may be useful for compacting very steep dozer lines perpendicular to the hillside contour.
 - Excavators are preferable to dozers for completing repairs on dozer lines.
 - Hand clearing of water bar outlets may be needed to ensure proper drainage.
 - Water bars and rolling dips should alternate drainage directions (herringbone pattern) when practical, and drain into natural channels, if present.
2. Where practical, trenched hand lines should be pulled back to the natural contour of the slope to reduce channeling water erosion.
3. Firelines that cross draws or channels will be cleaned of debris, excess dirt, and recontoured to the original slope to the extent feasible (Appendix C). Constructed temporary stream crossings will be removed. Vegetation cleared should be lopped and scattered at or near the stream channel. A READ should be present during the implementation of this repair activity.
4. Meadows that were crossed by firelines will be repaired to restore drainage, mulched and seeded with native seed, if available and as advised.
5. Where desirable, remove suppression created fuels and logs from firelines through means such as, chipping, piling, and/or decking logs, as advised (see Appendix G).

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6. Block motorized vehicle access to firelines using available woody debris, rocks, and earthen berms.
7. Where firelines intersect established FS trails, intersecting firelines should be obliterated to eliminate future usage by recreationists. FS trails that were used as firelines are to remain in place.
8. All lines identified as strategic firelines will be maintained for future use. An approved map of strategic fire lines (See Appendix H) will be provided by the Forest. Strategic lines should only receive water bars, as well as the minimum amount of organic matter scattered, as necessary, to prevent unwanted erosion. Suppression generated slash shall be removed from both sides of the line and chipped and/or piled for future burning. Piling of material for future burning and ends of lines closed should occur only after the fire is considered contained.
9. Any newly constructed non-primary containment lines that are designated by the IMT or Forest as no longer needed to contain the fire, should have debris and brush scattered back over the line, as advised.

C. Discrete Suppression Activity Areas (Spike Camps, Drop Points, Staging Areas, Safety Zones, Heliwell Sites, Helispots, and Sling Sites)

1. Restore sites that will not be used in future operations as close as possible to pre-fire conditions.
2. Constructed or improved discrete suppression activity areas shall have berms spread out and any vegetation pulled back to reduce the likelihood of pooling and improper drainage, as advised.
3. Chip or pile suppression generated slash, as advised (see Appendix G). If piling, tarp or paper all slash generated during area construction directly on the area for ease of burning. Piles will be burned when conditions are appropriate under an approved burn plan.
4. All discrete suppression activity areas identified may have adjacent slash chipped and/or spread across their surfaces. Slash pile construction is still preferable to scattering of excess material.
5. Maintain the integrity of Wilderness, Inventoried Roadless Area and Wild and Scenic River Corridor characteristics for safety zones, drop points, and staging areas within these management units.

E. FS System Roads (Main Stems, Spurs, and Turnouts)

1. System roads used by fire suppression resources will be returned to their pre-existing conditions. This will include treatments designed to provide water drainage, to prevent surface erosion, to reduce compaction within identified areas, to minimize noxious weed spread, and repair road surface damage.
 - Dirt and gravel roads will be watered and graded, where applicable, and removal of outside suppression berms, if bulldozed open, to restore and stabilize their surfaces and drainage. These activities should be performed only after all other road repair activities are considered complete.
 - Road ditches, side drains, rolling dips, culverts, and other existing road drainage features that were damaged by fire suppression activities will be repaired and/or cleaned to functioning condition and established FS road maintenance standards.
 - Restore improved or modified low water crossings to pre-fire conditions. A READ should be present during the implementation of this repair activity.

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- Pile or deck trees felled along roads during suppression activities at identified locations. (see supplemental document 2022 R5 Hazard Tree Identification and Mitigation).
- On roads improved for suppression access, excessive build-up of slash should be pulled and chipped (preferred). Depending on site specific conditions and size of material, material may be lopped and scattered, as advised. Repair earthen barriers for Maintenance Level 1, User-created (non-system), and decommissioned roads only.
- Chip slash and spread chips so they do not impact drainage structures or go into stream courses or wet areas (see Appendix G).
- Maintain integrity of designated Wilderness, Inventoried Roadless Areas, and Wild and Scenic River Corridors.

D. FS System Trails

1. Restore trail surface and water drainage features.
2. Restore recreational trails to pre-fire condition. Spread accumulations of duff and mineral soil but consider keeping foot trail to bare mineral soil. Desired trail bed width is 24 inches on primary trails and 18 to 24 inches on secondary trails.
3. Naturalize trailheads by scattering duff, woody debris, and rocks.
4. Flush-cutting visible stumps, diagonal cutting tree ends, and rolling discarded wood out of sight. If flush-cutting of stumps and stobs is not possible, maximum stem length shall be 2 inches.
5. See Special Repair Considerations section for repair of heavy equipment work in the Wilderness for additional details

F. Wetlands and Meadows

1. No work should be implemented in these areas prior to consultation with the Lead Resource Advisor.
2. Unless otherwise noted, use hand tools to decompact wetland and meadow soils impacted by suppression activity.
3. Replace sod and use clippings from surrounding area to seed affected area to revegetate and provide ground cover.

G. Water Sources

1. Remove all equipment.
2. Repair suppression related damage at water sources developed as water draft sites, stream courses, and riparian areas used as firelines.
3. Remove any dams, dikes, or other improvements that were created for fire suppression efforts.
4. Restore natural contours to stream banks damaged by suppression activities.
5. Clear any accumulated debris from culvert inlets at drafting sites.
6. Clean and/or remove any soils and vegetation impacted by fuel or oil spills. Report any fuel or oil spills to landowner.

H. Gates and Fences

1. Repair or replace any gates and fences cut or damaged by fire suppression activities on NFS lands.

I. Miscellaneous

1. Following suppression repair actions, remove all equipment and supplies, litter, discarded hose, fire-related flagging and other material refuse, from all areas utilized for suppression activities, including staging areas, drop points, safety zones, escape routes, water sources, firelines, helibase, helispots, access routes, and camping areas. Flagging and signage will be removed during Stage 2.
2. All heavy equipment involved in suppression repair shall be inspected and washed prior to entering fire repair areas and washed after finishing work to prevent the spread of invasive plant species. All heavy equipment and vehicles working within and along 06N06 (Route 6) and 06N08 (Friday Ridge Road) shall be washed prior via mobile pressure wash unit (e.g., engine, water tender) prior to exiting the work area. Both corridors are highly infested with yellow star thistle.
3. As advised, when working in Port Orford cedar root rot infected areas, (main stem Willow Creek, Eask Fork Willow Creek, and Boise Creek including their tributaries), all fire personnel boots shall be washed and brushed clean prior to leaving designated areas. Drafting from infected waters should be avoided, if possible. If needed for drafting, all drafted water shall be treated with Clorox at a rate of 1 gallon Clorox/1,000 gallons water (3 tsp Clorox/1 gallon water).

J. Private Property

1. Damage to State, County, and private lands and improvements caused by fire suppression activities will be repaired to the minimum extent needed to immediately correct the damage to prevent further loss or injury. Additional repairs desired by the State, County, or private landowner are the responsibility of the landowner or through the compensation claim process.

STAGE TWO

A. Heritage Archaeological, Cultural, and Historical) Resources

1. No repair work shall commence at known heritage resource sites prior to consultation with an assigned Archaeologist and the Hoopa Tribal Representative. For repair work at heritage resource sites on federal land, the Lead Federal Archaeologist shall be consulted.
2. Work in archaeological sites will be completed with a ARCH and/or Hoopa Representative present or only after coordination with an ARCH or Lead Federal Archaeologist.
3. Repair damage to archaeological sites as prescribed by the assigned archaeologist.
4. Conduct site damage assessments for all sites discovered and/or damaged as a result of suppression activities. Conduct National Register of Historic Places determinations of eligibility for sites to

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asses which historic properties have been adversely damaged as a result of suppression activities and how to appropriately repair the site.

B. Firelines (Hand and Dozer) – Agency Administrators and/or appropriate agency personnel will inspect and monitor the firelines and determine if additional wildfire suppression repair treatments are needed.

1. All lines identified as strategic firelines will be maintained for future use. An approved map of strategic fire lines (See Appendix H) will be provided by the Forest. Strategic lines should only receive water bars, as well as the minimum amount of organic matter scattered, as necessary, to prevent unwanted erosion. Suppression generated slash shall be removed from both sides of the line and chipped and/or piled for future burning. Piling of material for future burning and ends of lines closed should occur only after the fire is considered contained.
2. Any newly constructed non-primary containment lines that are designated by the IMT or Forest as no longer needed to contain the fire, should have debris and brush scattered back over the line, as advised.
3. Where piling is used, pile all slash generated during fireline construction off to the side (in the black) or directly on the fireline, as it makes sense for ease of burning, and with consideration to future fire-line use (see Appendix G). Piles will be burned when conditions are appropriate, possibly during the incident, if appropriate. This will be done under direction of Forest designed burn boss, who should be present during the implementation of this repair activity.
4. In areas where soil is churned into powder along control lines consider brush scattering. These soils will begin to consolidate with the wet season but an increase from wind erosion is added to normal water erosion. Scattering brush over the soil surface after the line is repaired will reduce erosion risk.
5. If not already completed under Stage 1, berms along hand and dozer lines shall be pulled back into and spread across the line. A READ should be present during the implementation of this repair activity.
6. Where practical, trenched hand lines should be pulled back to the natural contour of the slope to reduce channeling water erosion.
7. Where accessible by roads and trails, firelines will be blocked to prevent unauthorized use.
 - For dozer line entry points, construct log-based earthen berms when possible, or alternatively blocked, in order to prevent vehicular access from roads (Appendix D).
 - For hand line entry points, cover the line with slash to disguise its visual presence as far as practical from its intersection with a road or FS trail.
8. To reduce the spread of invasive plants, mulch and seed firelines where they intersect roads and at Class I and II stream crossings (first 300 feet), as appropriate. Favor the use of native and weed-free seed and mulch sources, where available and as approved by the District or Forest Botanist.
9. Within designated Wilderness, Inventoried Roadless Areas and Wild and Scenic River Corridors, ensure minimal evidence of suppression is present (in accordance with M.I.S.T) and the integrity of the area designation is maintained.

D. Discrete Suppression Activity Areas (Spike Camps, Drop Points, Staging Areas, Safety Zones, Heliwell Sites, Helispots, and Sling Sites)

1. Clean and/or remove any soils and vegetation impacted by fuel or oil spills.

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2. If desirable and road-accessible, chip piled fuels at identified areas (Appendix G). Piles left will be burned when conditions are appropriate through an approved burn plan.
3. Scatter brush/limbs onto impacted areas to blend with the natural landscape.
4. Scatter excess accumulations of cut limbs/seedlings/saplings into a natural arrangement.
5. Consider using soil, rock, limbs, etc to camouflage cut faces and stumps.
6. Obliterate landing pads and leave in as natural condition as possible: bury painted helispot markers, remove litter, clean up any area.
7. To reduce invasive plants, seed and mulch areas as appropriate with native and weed-free sources, if available and as advised. Prior to implementation, consult with the District or Forest Botanist to determine which species to use as well as the application rate.

E. FS System Roads (Main Stems, Spurs, and Turnouts)

Although road work is a requirement of Stage 1 repair, it may be necessary to continue some of those activities in Stage 2.

1. Dirt and gravel roads will be watered as needed and graded to restore and stabilize their surfaces. These activities should be performed only after all other road repair activities are considered complete.
2. Drainage structures (e.g., culverts, ditches) will be cleaned/repared to facilitate full functioning capacity.
3. Berms created along roads during fire suppression should be removed to restore proper drainage.
4. Block access to Maintenance Level 1, user-created (non-system), and decommissioned roads utilized during fire suppression by constructing log-based earthen berms.
5. As needed and identified, remove excess fuels from roads and trails through means of chipping, piling, and decking logs. Pile or deck trees felled along roads during suppression activities at identified locations (see supplemental document 2022 R5 Hazard Tree Identification and Mitigation).
6. Get “S” numbers for any critical road work necessary along system roads for public safety (see Special Repair Considerations).

F. FS System Trails

Although trail work is a requirement of Stage 1 repair, it may be necessary to continue some of those activities in Stage 2.

1. Restore trail surface and water drainage features.
2. Naturalize trailheads by scattering duff, woody debris, and rocks. Do not scatter any material in parking areas at trailheads.

G. Wetlands and Meadows

1. Gather and use clippings from surrounding area to seed surfaces and provide ground cover to areas impacted by suppression activity as necessary.

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2. If additional seeding is necessary, seed and mulch as appropriate. Prior to implementation, consult with the District or Forest Botanist to determine which species to use as well as the application rate.

H. Water Sources

1. Naturalize areas by scattering duff, woody debris, and rocks as necessary.
2. Spot rocking and hardening of water sources may be necessary for water sources not along rivers.

I. Fences and Gates

1. Replace or repair gates removed or damaged during suppression activities not repaired during Stage 1.

J. Miscellaneous

1. Remove porta-potties, signage, flagging, and any installed structural wrap from all areas of fire suppression.
2. Inventory for noxious weeds at sites used for suppression activities.
3. To reduce the spread of invasive plants, mulch and seed, areas of soil disturbance created during suppression operations, as appropriate and advised. Favor the use of native weed-free seed and mulch sources, where and when available and as advised. Only use seed mixes and mulch approved by the District or Forest Botanist.

SPECIAL REPAIR CONSIDERATIONS

A. Hoopa Valley Tribe Reservation Land:

The following considerations will be given to fulfilling fire suppression repair efforts within the boundary of the reservation of the Hoopa Valley Tribe.

1. Any repair work on Hoopa Valley Tribe Reservation Land will follow the guidance of the Hoopa Tribe's Forest Management Plan.
2. Detailed prescriptions on a site-by-site basis will be documented and reviewed by Tribal monitors and the Tribal interdisciplinary team before implementation.
3. Use Hoopa Valley Tribe equipment where possible.
4. Use Tribal member contractors where possible, particularly those with heavy equipment such as excavators, dozers, etc.

B. Recreation Infrastructure and Wilderness

Recreational Infrastructure:

1. Horse Linto Campground – One bathroom received fire prep (wrapped). During repair this structure will be unwrapped. All used wrap, pulled staples, and tape will be packed out.
2. Brush Mountain Lookout – Lookout received fire prep and wrap. During repair this structure will be unwrapped. All used wrap, pulled staples, and tape will be packed out.

Trinity Alps Wilderness:

1. Within designated Wilderness areas, ensure minimal evidence of suppression is present (in accordance with M.I.S.T) and maintain integrity of the area designation.
 - All hand lines constructed in the wilderness (not including improved FS trails) will be obscured by naturalizing the appearance of the exposed soil surface and covering with available slash.
 - Cut ends of stumps and felled trees should be roughed up to create more natural appearance or decrease their visibility. Methods may include diagonal cuts, scattering cut surfaces with dirt and slash, or flush cut stumps.
 - Where handlines intersect roads or dozer lines, at Wilderness boundary, obstructions to prevent future access placed such as larger diameter materials.
 - All berm knocked down and pulled back.
 - All signs and flagging removed from within or on the wilderness boundary.

C. Roads

1. Hazard Tree Abatement along portions of critical roads: 07N15/CR 454 - Campbell Ridge Road, 07N02 - Route 4, 06N08 - Friday Ridge Road, and 07N02 – Waterman Ridge Road (see Appendix I). All roads as noted above provide critical ingress/egress for the public as well as Agency staff. Hazard trees are defined as those that have a risk of falling, either in whole or in part, because of some defect, and then of hitting a target, potentially resulting in injury to people or damage to property.
 - All hazard tree abatement activities shall be consistent with the 2022 R5 Hazard Tree Identification and Mitigation (supplemental document attached).
 - Any identified hazard trees that may impact any portion of the established road corridor shall be felled, skidded, processed and decked, chipped, or left whole on the ground as specified by resource advisors in coordination with the Lead READ.
 - Any hazard tree 30” and greater shall be felled and left on site. Danger trees 22” and below maybe removed mechanically (e.g., feller-buncher).
 - Resource advisors will assist with identifying hazard trees, decking areas, and assessing other resource concerns.
 - Decking in already establish turnouts or in areas specified by resource advisors which provide for safe public access is preferred. Decking on hillslopes is permissible, if necessary, on in locations identified by resource advisors.
 - Decks shall be no greater than 6 feet in height to ensure public safety if left as public firewood.

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2. Gravel and rolling:
 - Madden Creek draft site – add 10 cubic yard gravel (2” minus) to road base at drafting access point and compact. Use gravel available at Route 6 location just south of draft site. Consult Forest Engineer for repair specifications and specific gravel location prior to work. Repair hose line down to stream to pre-existing condition
 - Repair mudhole in road (06N08-Friday Ridge Road) – add 20 cubic yards gravel (2” minus) to road base at point 40.843689N, 123.621677W and compact.
3. All wire and t-post anchors removed from roadsides (05N01 - Ammon Ridge Road)

D. Communication Infrastructure:

1. Lone Pine Ridge Road Repeater (17N10, Section 15) – Repeater received fire prep and wrap. During repair any all wrap will be removed. All used wrap, pulled staples, and tape will be packed out.

PLAN TENURE

This fire suppression repair plan is subject to changes and amendments as the situation changes and additional repair needs are identified. Refer to Appendix E for a quantitative summary of repairs and anticipated suppression resource needs, and Appendix F for the most current listing of repair needs.

Appendix A Effective Waterbars

When locating and building water bars, place them the right **distance** apart, at a **diagonal** to the fire line, so that they **divert**, then **discharge**, then **dissipate** the energy of the flowing water. Be sure to make them deep enough so they'll be durable, and that soil does **not block** the water bar outlet.

Recommended spacing for waterbars on firelines.

Fireline slope %	Maximum Distance Apart (feet)
1 – 5	200
6 – 20	125
21 – 40	60
41 – 60	40
>60	25

Waterbars should be at least 2 pulaski (4-6 inches) widths wide and 12-24 inches high for dozer and handlines.

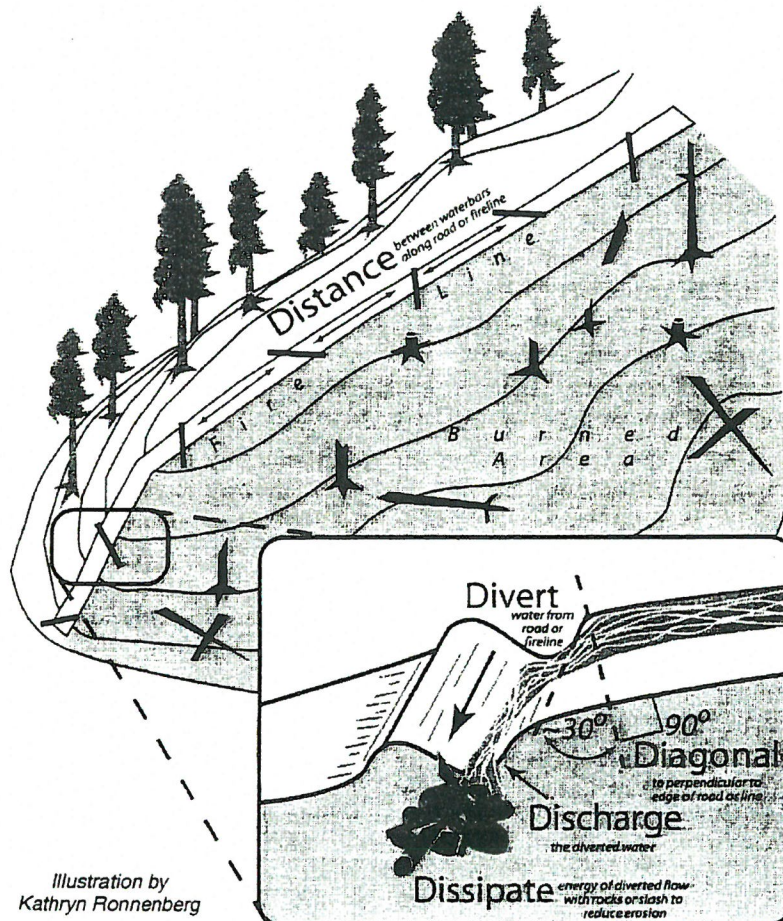
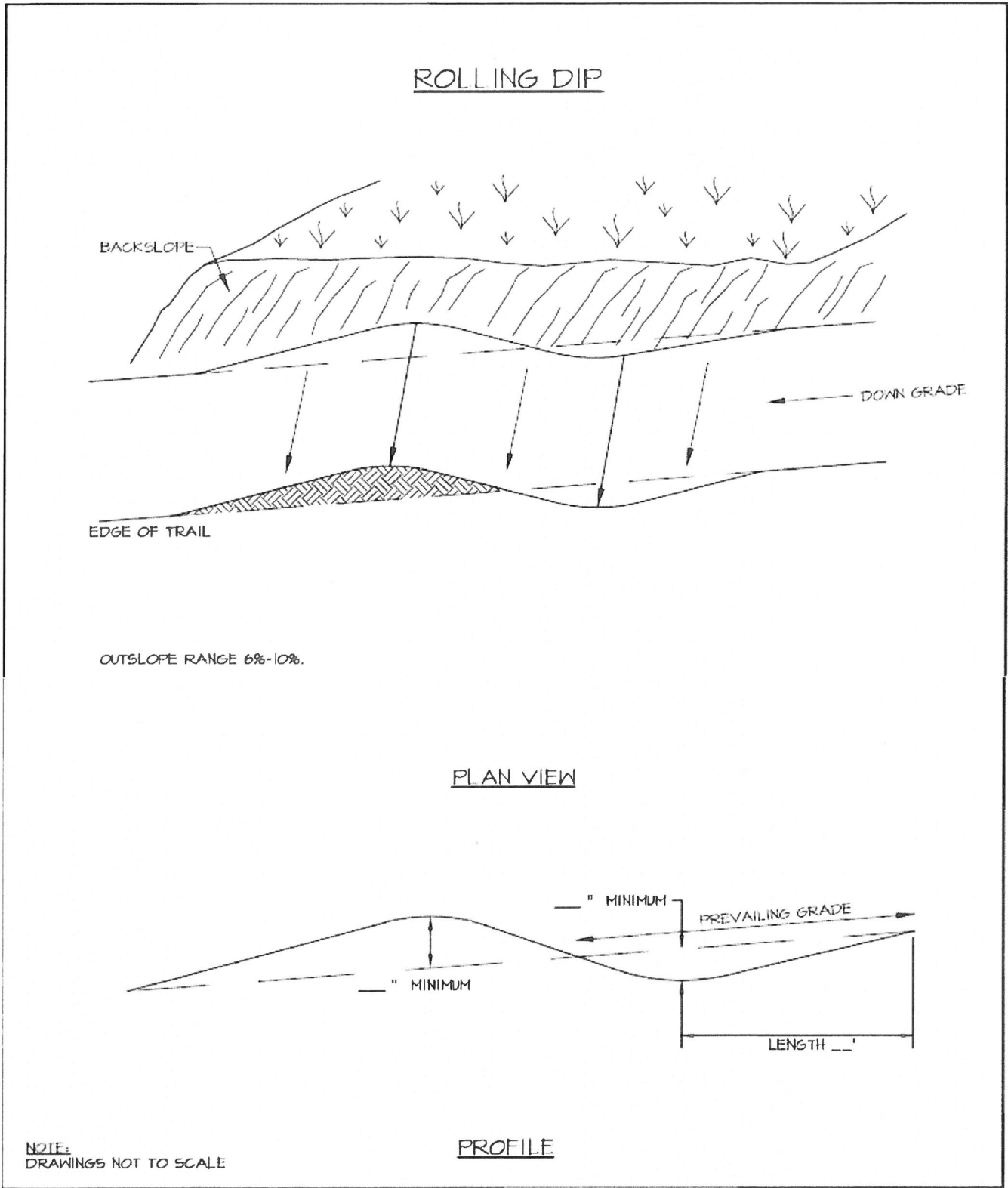
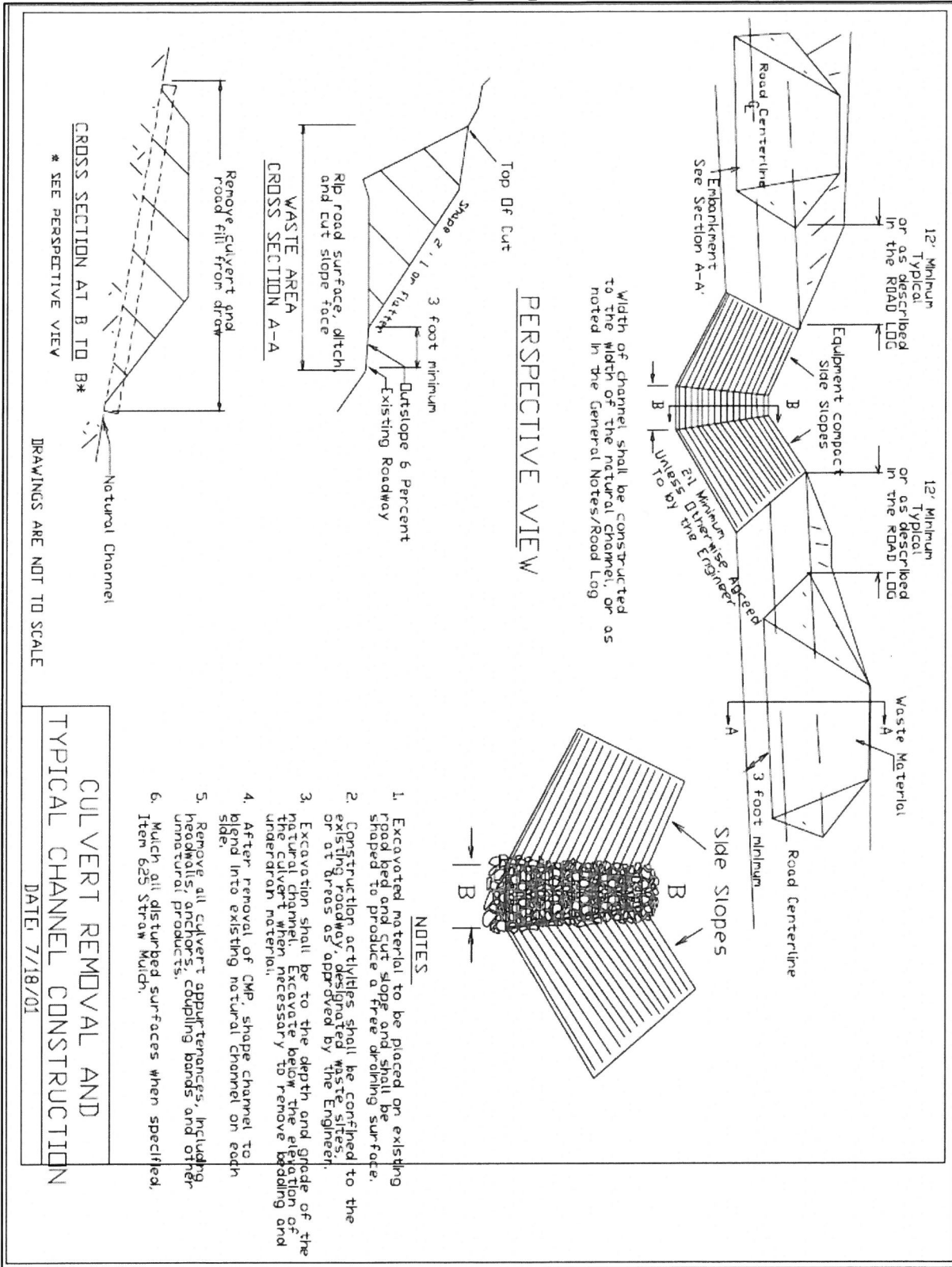


Illustration by
Kathryn Ronnenberg

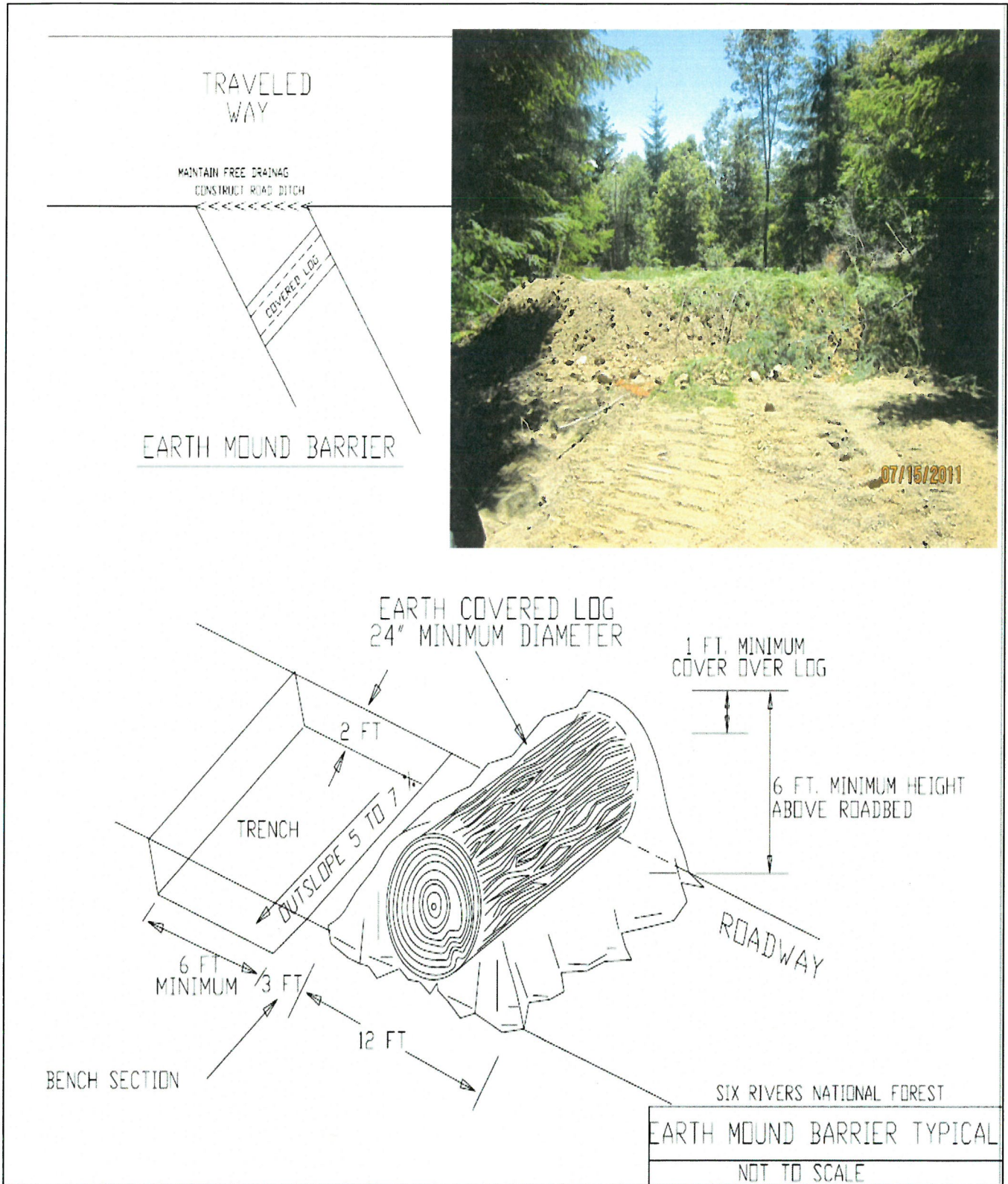
Appendix B Rolling Dip Example



Appendix C Stream Crossing Repair Example



Appendix D Effective Earthen Berms



Appendix E Summary of Repairs

The data below will be presented once suppression repairs commence.

Suppression Activity	Quantity
Dozer Lines	miles
Hand Lines	miles
Trails as Fire Lines	miles
Roads as Fire Lines	miles
Roads for Access Only	miles
Other Linear	miles
Spike Camps	
Drop Points	
Staging Areas	
Safety Zones	
Heliwell Sites	
Helispots	
Sling Sites	
Other Discrete	

Table 1. Summary of Repair Needs as of 08/25/2022

Appendix F

Repair Locations and Descriptions – Refer to Suppression Repair Map

NOTE: The data below will be presented once suppression repair map is fully developed.

Repair ID	Location Description	Resource(s) Needed	Primary / Non-Primary	Repair Notes
DL-01	DP-03 to DP-04	Excavator, Hand Crew	Non	N/A

Appendix G

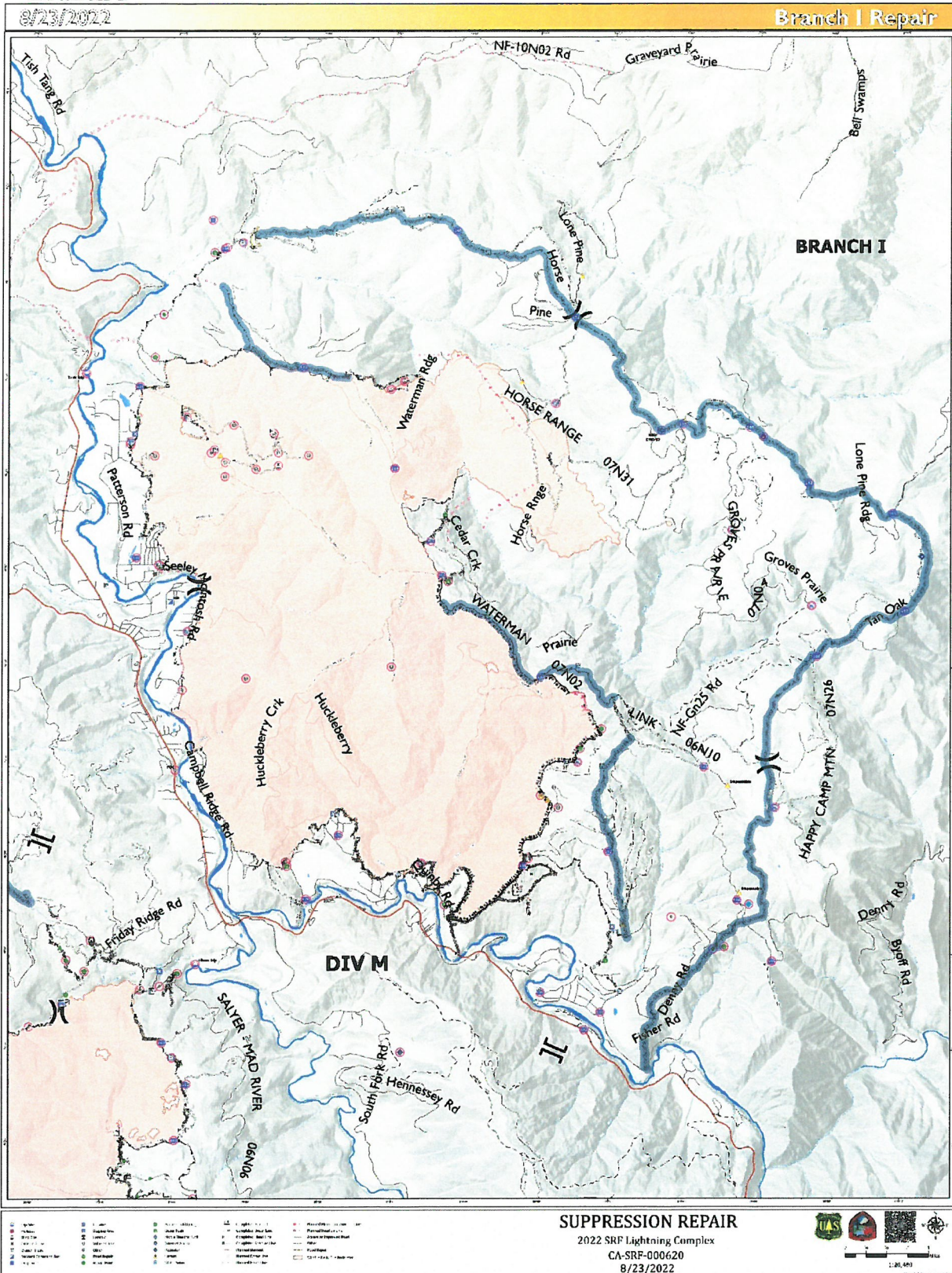
Chipping and Piling Specifications for Suppression Generated Slash

Slash treatment shall be completed to reduce fuel loading. Slash treatments are dependent on proximity to roads, amount/concentration, and how it was generated (e.g., dozer vs hand crew). Please follow the site-specific approach in dealing with suppression generated (otherwise unusable) fuels.

1. All lines identified as strategic firelines will be maintained for future use. An approved map of strategic fire lines (See Appendix H) will be provided by the Forest. Strategic lines should only receive water bars, as well as the minimum amount of organic matter scattered, as necessary, to prevent unwanted erosion. Suppression generated slash shall be removed from both sides of the line and chipped and/or piled for future burning. Piling of material for future burning and ends of lines closed should occur only after the fire is considered contained.
2. For large accumulations close to roads, chipping is preferred. Focus chipping efforts on slopes needing soil stabilization. For chipping operations, adhere to the following mitigations: chips shall be scattered to a loose depth not exceeding 6 inches, prefer 4 inches.
3. Chips are not to be blown directly into waterways. If chipping is not possible, READs will determine the feasibility of spreading, removal, or piling excess materials. Larger felled trees (without rootwads) should be whole-tree decked in piles in locations specified by READs (Preferably piles should be placed on the burnt side of the fireline)
 - Lesser slash accumulations, where chipper is not economical, pile and cover as first option. Piles shall be constructed so that they consume, all material should be oriented in the same direction to facilitate pile consumption, but other methods may be applicable. Piles shall be sufficiently covered at 75% with 5 mil or thicker plastic or two layers of waxed paper to ensure at least two good possible points of ignition. Piles are generally not to be greater than 4ft high x 4 ft wide x 6 ft long.
 - Piles are not to be placed next to or on top of residual green trees, standing dead trees, near or on down logs, or in creeks, roadways or ditches.
4. If piled, resource advisors shall map pile locations and provide to Six Rivers Lead READ (Preferably, piles should be placed on the burnt side of the fireline).
5. Moderate slash can be lopped and scattered when chipping and/piling not viable. Only smaller diameter trees, tops, limbs, and brush should be scattered.
6. For dozer generated slash with large trees with rootwads, chipping is preferred. Material can be piled and covered or used for slope stabilization, as advised. Do not pile if large amounts of soil/rocks exist; use on slopes for soil stabilization or scatter.
7. Larger slash shall not be bucked and all trees 30" dbh or greater shall be left on the ground for wildlife habitat.
8. Resource advisors shall work with Forest and District Wildlife Biologist and Lead READ to ensure appropriate retention of down woody debris is maintained as specified in the Six Rivers National Forest Land and Resource Management Plan.

Appendix H - Strategic Firelines Identified for Future Wildfire

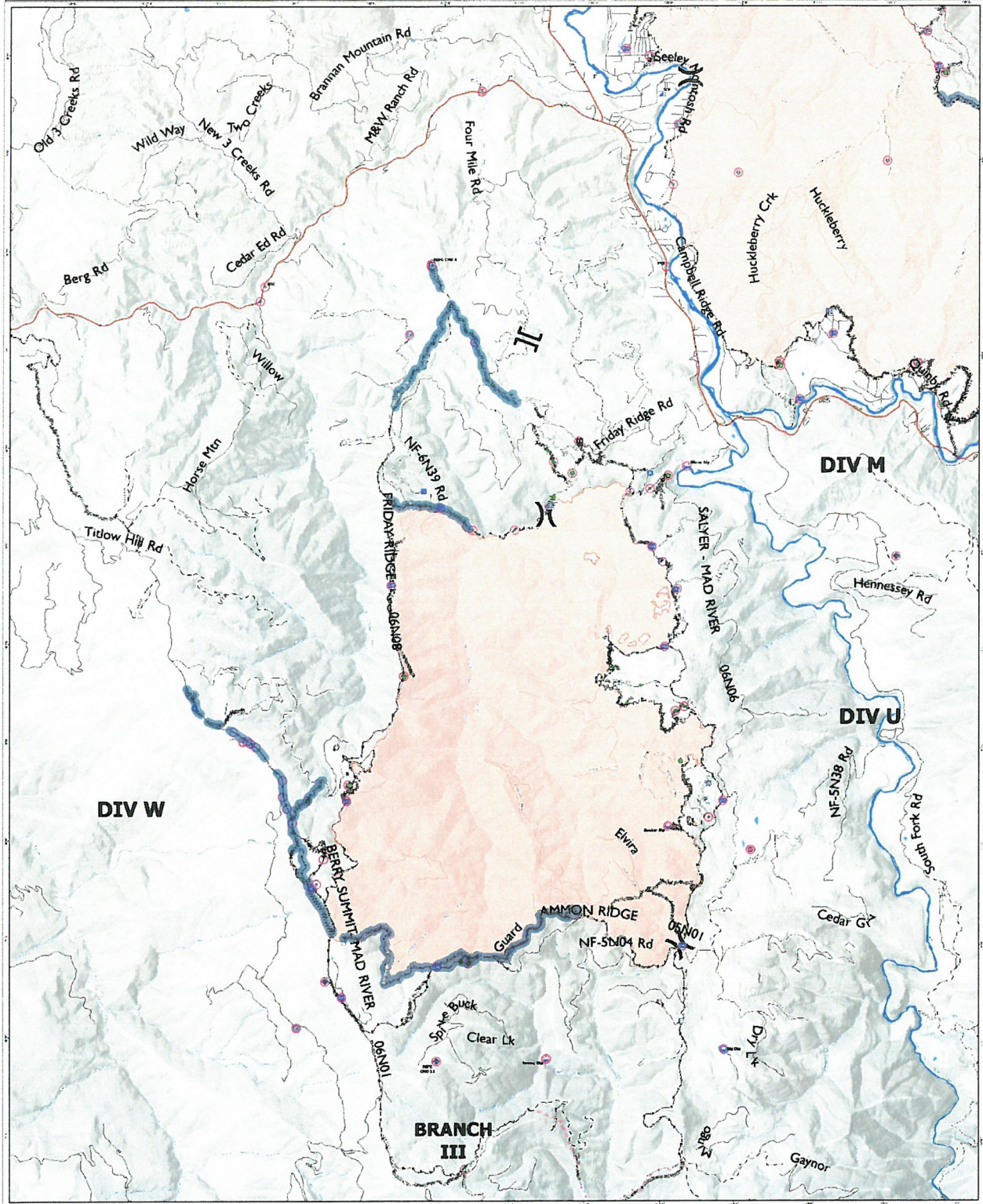
Branch I



Branch III

8/23/2022

Branch III Repair



<ul style="list-style-type: none"> ● 40' x 40' ● 80' x 80' ● 160' x 160' ● 320' x 320' ● 640' x 640' ● 1280' x 1280' ● 2560' x 2560' ● 5120' x 5120' ● 10240' x 10240' ● 20480' x 20480' ● 40960' x 40960' ● 81920' x 81920' ● 163840' x 163840' ● 327680' x 327680' ● 655360' x 655360' ● 1310720' x 1310720' ● 2621440' x 2621440' ● 5242880' x 5242880' ● 10485760' x 10485760' ● 20971520' x 20971520' ● 41943040' x 41943040' ● 83886080' x 83886080' ● 167772160' x 167772160' ● 335544320' x 335544320' ● 671088640' x 671088640' ● 1342177280' x 1342177280' ● 2684354560' x 2684354560' ● 5368709120' x 5368709120' ● 10737418240' x 10737418240' ● 21474836480' x 21474836480' ● 42949672960' x 42949672960' ● 85899345920' x 85899345920' ● 171798691840' x 171798691840' ● 343597383680' x 343597383680' ● 687194767360' x 687194767360' ● 1374389534720' x 1374389534720' ● 2748779069440' x 2748779069440' ● 5497558138880' x 5497558138880' ● 10995116277760' x 10995116277760' ● 21990232555520' x 21990232555520' ● 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Appendix I – Hazard Tree Abatement Along Priority Roads

