High Sierra Front Country Fuel Break Project

State Responsibility Area Implementation

Statement of Work and Request for Proposals

Sierra National Forest, California

Background and Statement of Work: The National Forest Foundation (NFF) and the US Forest Service are working together to create a more resilient Sierra National Forest through targeted efforts. The NFF is seeking proposals for the High Sierra Front Country Fuel Break Maintenance and Expansion project on State Responsibility Area (SRA) that will complete up to 405 acres within the Wildland Urban Interface (WUI). The project will include a combination of mechanical mastication and hand cut hand pile (Item 1) throughout the community of Shaver Lake, California. The work will be completed entirely on private parceled land adjacent to National Forest Service Land, West of Shaver Lake, as outlined in the attached Appendix C – Maps. The final total of acres for the project will be contingent on how many Rights of Entry's (ROE's) are signed to allow work to be completed on private land. 405 acres is the maximum amount of project acres for this project.

- A Pre-bid tour will be scheduled for 3:00pm on August 8, 2023, at Vista (“Lookout”) Point to meet with Forest Service and National Forest Foundation Staff.

  Directions: Off HWY-168 on the right, .5 miles before reaching Cressman’s General Store on the left. Coordinates: 37.059163, -119.36283)

- Attendance of the pre-bid tour is mandatory for bids to be considered.

- Camping is not allowed at the project site.

Information Requested

If interested in this project, please provide a bid for the above statement of work by providing approach, work experience, and cost for each individual service item you bid on. Due to the variety of operational needs listed in Appendix E – Schedule of Items and Specifications to meet desired conditions, please clearly define the operational approach and provide a list of planned equipment to accomplish items in bid submission. Please include any previous experience working on Private Land. Please include your capacity for this project and efficiency in mechanical fuel break maintenance and expansion and/or hand thinning and piling in the past, if any.

This is a request for proposals only and bids furnished are not offers. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation or submission of the bid or to contract for supplies or services.
General Specifications

(a) **Description of Work** – This Request for Proposals is for restoration services related to mechanical fuel break maintenance and expansion, hand thinning and piling, including the following:

**Item 1:**

1.1 Machine felling, thinning, and piling
1.2 Mechanical mastication
1.3 Hand cut / Hand pile

The full Scope of Work can be found in APPENDIX E – Schedule of Items and Specifications. Each work item is broken out into its own section with further detail pertaining to desired conditions.

The Contractor shall identify which they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

(b) **Project Location** – The project is located in the community of Shaver Lake, California (also known as Shaver West) and totals up to 405 acres of work. The Project includes up to approximately 50 private parcels to create a continuous fuel break, contingent on landowner participation, that can be found in Appendix C - Maps. The project area is located to the West of HWY 168, starting near Cressman's store, and weaving throughout the edge of the community. APPENDIX C – General Project Map includes the project area on which treatments will occur and their specified units of fuel break maintenance or expansion. The elevation of the project area is approximately 3,000-4,500 feet.

(c) **Work Schedule** – Work will commence as early as project and soil and fire conditions allow in 2023 and run year-round (weather permitting) until December 2025. Anticipate delays each summer and fall for Project Activity Level (PAL) days where limited work is allowed. Snow cover and/or wet ground may prevent hand or equipment work during the winter months (November – May) depending on precipitation amount. Some areas may be worked during the winter months. Breaks in operations may be needed and requested by NFF.

All work must be completed by December 31, 2025.

Pricing Schedule

The contractor shall price work according to the schedule below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit of Measure</th>
<th>Quantity</th>
<th>Unit Price $</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Mechanical Felling, Thinning, Piling, Mastication, Hand Cut/Hand Pile</strong></td>
<td>Acres</td>
<td>405</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other Project Requirements and Specifications

(a) **Utilities** – In many locations there will be no or limited sanitation, water, electrical or housing services available. The Contractor shall make its own arrangements for temporary facilities if needed. The NFF Representative will assist the contractor in identifying a camping area near the project site if spiking is the desired option.

(b) **Specifications** – Project work shall be accomplished in accordance with following:

- APPENDIX A – Definitions
- APPENDIX C – General Project Maps
- APPENDIX E – Schedule of Items and Specifications
- APPENDIX G – Guidelines and Operations
- APPENDIX H – Fire Plan

Contractor Qualifications

(a) **References** – Please provide three references.

(b) **Past Experience** – Please provide a brief explanation of previous work experience with land management agencies.

Insurance Requirements

Upon selection of the winning bid, the chosen contractor will be asked to affirm that it has and shall maintain State minimum workers’ compensation insurance coverage for its employees, if any. The selected contractor shall also maintain broad form general liability, property damage, and automotive liability insurance in the minimum amount of $1,000,000 for bodily injury, death, or damage to property of any person and $2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with documentation evidencing such coverages.

Prohibited Telecommunications Services and Equipment

The Contractor is responsible for compliance with the prohibition on certain telecommunications and video surveillance services or equipment identified in 2 CFR 200.216.

Performance Security

Chosen contractor shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF in its sole determination in the amount of 5% of the amount due to contractor, not to exceed $250,000 dollars, to assure completion of the work required under this Agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor’s subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. As work is completed in integrated component parts, inspected, approved and, if applicable, conveyed to NFF, the Performance Security shall be released in a proportional amount, unless a lesser amount of release is necessary to maintain 5% Performance Security.
Bid Submission
Submit bids via email to svaughan@nationalforests.org by **5pm on August 25, 2023**.

Contractor Selection Process
The NFF will use the Evaluation Factors below to review each submitted bid. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders by September 1, 2023, and will prepare a separate contract document.

Point of Contact
For questions about the details of producing the bid, please contact:

Sara Vaughan
California Program Manager, Southern Sierra National Forest Foundation
530.919.8745
svaughan@nationalforests.org

Evaluation Factors and Relative Importance

<table>
<thead>
<tr>
<th>Level 3 Criteria</th>
<th>Level 2 Criteria</th>
<th>Level 1 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Price / cost</td>
<td>• Technical proposal / proposed approach to project</td>
<td>• Benefits to the local community</td>
</tr>
<tr>
<td>• Equipment and contractor capability</td>
<td>• Overall strategic benefits to meeting NFF goals and grant needs, requirements, and timelines</td>
<td>• Relationship to local community</td>
</tr>
<tr>
<td>• Timing of when contractor can begin and/or finish the project</td>
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</tr>
<tr>
<td>• Past performance, references, and USFS feedback</td>
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<td></td>
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</tbody>
</table>

Equal Opportunity Provider
In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.
APPENDIX A
DEFINITIONS

The High Sierra Front Country Fuel Break
State Registered Area Land
Maintenance & Expansion Project

Control line: area of land adjacent to and surrounding a burn pile cleared to bare mineral soil for the purpose of containing the fire.

DBH: Diameter at breast height, measured 4.5 feet above ground on the uphill side of the tree.

Dripline: The line extending from the edge of the crown straight down to the ground.

Durable surface: any surface that is not likely to erode or degrade under runoff in the amounts typically discharged from waterbreaks. Durable surfaces include rock outcrops, rocky deposits, divergent slopes, and areas of sufficient ground cover.

EEZ: Equipment Exclusion Zone. Protective buffer around certain waters, geological features, or other resources in which heavy equipment operation is prohibited.

Erosion control measures: installation of structures or materials for the purpose of preventing or mitigating erosion. Erosion control measures include waterbars, waterbreaks, straw or mulch, or other measures deemed necessary or appropriate by the RPF or contract administrator.

Leave trees: trees which are to be left untreated for the purposes of providing shade to reduce growth of surface fuels at a spacing that reduces the potential for sustained crown fire.

Snag: a standing dead tree that is 16” inches or greater in DBH and at least 20 feet tall.

STZ: Special Treatment Zone. Protective buffer around sensitive areas that carries certain restrictions.

Tree: Any conifer or hardwood generally recognized as a tree species that is 8” DBH or greater.

WLPZ: Watercourse and Lake Protection Zone. Protective buffer around watercourses, springs, or other hydrologic features that carries certain restrictions.
Shaver West Fuel Break Maintenance and Expansion Project

Treatment Type

- Fuel Break Maintenance
- Fuel Break Expansion

0.25 0.5 1 1.5 2 Miles

APPENDIX C
APPENDIX E

SCHEDULE OF SERVICE ITEMS

AND

SPECIFICATIONS

The High Sierra Front Country Fuel Break
State Responsibility Area Land
Maintenance & Expansion Project

Project Location & Description

Location: The project is located on Private Land in the community of Shaver Lake, California (also known as Shaver West) and totals up to 405 acres of work. The Project will include up to roughly 50 private parcels to create a continuous fuel break, contingent on landowner participation, that can be found in Appendix C - Maps. The project area is located to the West of HWY 168, starting near Cressman’s store, and weaving throughout the edge of the community. APPENDIX C – General Project Maps include the project area on which treatments will occur and their specified units. The elevation of the project area is approximately 3,000–4,500 feet.

Description: The National Forest Foundation (NFF) and the US Forest Service are working together to create a more resilient Sierra National Forest through targeted efforts. The NFF is seeking proposals for the High Sierra Front Country Fuels Break Maintenance and Expansion project on State Responsibility Area that will complete up to 405 acres within the Wildland Urban Interface (WUI). The project will include a combination of mechanical mastication and hand cut hand pile (Item 1) throughout the community of Shaver Lake, California. The work will be completed entirely on private parceled land adjacent to National Forest Service Land, West of Shaver Lake, as outlined in the attached Appendix C – Maps.

SCHEDULE OF SERVICE ITEMS:

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<th>Unit of Measure</th>
<th>Quantity</th>
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</thead>
<tbody>
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<td>1</td>
<td>Mechanical Felling, Thinning, Piling, Mastication, Hand Cut/Hand Pile</td>
<td>Acres</td>
<td>405</td>
</tr>
</tbody>
</table>

Background:
A fuel break is generally a wide strip of land on which vegetation has been modified to regulate fire behavior. The intent of a fuel break is to reduce fire line intensity, improve access for firefighters, and enhance fire line production rates. Modified fuel loading within fuel breaks also provides opportunities for indirect fire line construction through backlight or burn-out operations to consume fuel ahead of an uncontrolled fire.

Projects are designed to take maximum advantage of roads, topographic features, and vegetation types. The construction of a fuel break is intended to accomplish the following:

1. Provide a location for fire suppression tactical advantage by aircraft and or ground operations.

2. Slow fire spread and reduce the potential for sustained crown fire and provide overstory shading to reduce the growth of surface fuels.
3. Allow for the timely deployment of tactical firefighting forces to suppress oncoming wildland fires.

4. Allow for the efficient construction of an emergency fire line when needed.

WORK SPECIFICATIONS AND STANDARDS

I. General Provisions for Heavy Equipment
A. Heavy equipment shall not operate:
   a. In any WLPZ, STZ, or EEZ;
      i. Excavators, heel-boom loaders, feller bunchers, or any equipment with a boom may reach into the above restricted areas.
         1. If using this exception, material may not be dragged out of the restricted area.
   b. On unstable areas, as identified by the RPF;
   c. On any paved or chip-sealed surface, with the exception that heavy equipment with rubber tracks or excavators with street pads may operate on such surfaces;
      i. The contractor shall be responsible for damage to surfaced roads resulting from heavy equipment use.
      ii. The contractor shall be responsible for watering and grading dirt or rocked roads that have been impacted by the contractor’s actions. Such roads shall be returned to their original condition.
   d. On saturated soils:
      “Saturated Soil Conditions means that soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during Timber Operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials.”
   e. Outside the project boundary;
   f. In any other area identified for heavy equipment exclusion by the RPF.

B. Leaking equipment shall not be allowed into the project area. If, during the course of operations, a leak is discovered, the machine shall stop and the leak shall be contained and fixed immediately. Operations shall not resume until the leak has been fixed. The contractor shall remove and dispose of any contaminated soil.

C. Care shall be taken to avoid damage to leave trees. It is acceptable for some areas to remain untreated if treatment is likely to result in excessive damage to leave trees but will be determined by the RPF.

D. Erosion Control
   a. On linear areas of bare soil that have been exposed by operations, and that may concentrate and redirect runoff, waterbars or other appropriate erosion control structures (waterbreaks) shall be installed to the following specifications:
      i. The spacing of waterbreaks shall comply with the standards specified in the following table. The Erosion Hazard Rating for the project area is Moderate.

<table>
<thead>
<tr>
<th>EHR</th>
<th>Grade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;10</td>
</tr>
<tr>
<td>Spacing (feet)</td>
<td>Extreme</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>Extreme</td>
<td>100</td>
</tr>
<tr>
<td>High</td>
<td>150</td>
</tr>
<tr>
<td>Moderate</td>
<td>200</td>
</tr>
<tr>
<td>Low</td>
<td>300</td>
</tr>
</tbody>
</table>

iii. Waterbars shall be cut at least 6" deep and the berm shall be at least 6" high, at an angle of approximately 35°.
iv. Waterbreaks shall be constructed such that water will discharge onto durable surfaces that will disperse runoff or dissipate the energy of the runoff. If a conflict arises between waterbreak spacing guidelines and discharge placement, discharge placement shall take priority.
v. Any waterbreak that will not function appropriately, as determined by the contract administrator, shall be reconstructed at no additional cost to NFF.

b. Additional erosion control measures may be implemented as determined by the RPF or NFF contract administrator.
c. Erosion control measures shall be implemented between October 15th and May 1st, prior to sunset if the National Weather Service forecast predicts a 30% or greater chance of rain within the next 24 hours.

E. Heavy equipment operation shall cease if the activity generates a significant amount of dust that impedes visibility or air quality outside of the project area.

F. Fire Protection
   a. The contractor shall provide and maintain fire suppression related tools and devices.
   b. When fuels and weather conditions are such that continued operations pose an elevated risk of starting a fire, operations may be suspended at the discretion of the NFF contract administrator.

II. Mastication
   A. Equipment
      a. Any machine that falls under the general category of “masticators” and is capable of completing the work as specified is acceptable, including but not limited to skid-steer masticators, boom-mounted masticating heads, and tracked machines.
      b. Boom-mounted masticating heads may be used to remove trees where such application is feasible, provided the end result meets the minimum standard described under “Mechanical Falling” below.
   B. Standards
      a. Mulch residue shall be no more than 4" deep.
      b. Minimum dimensions of residual material shall be as follows:
         i. No less than 100% of residual material shall be less than 36" in any dimension.
         ii. No less than 90% of residual material shall be less than 18" in any dimension.
         iii. No less than 60% of residual material shall be less than 12" in any dimension.
         iv. No less than 40% of residual material shall be less than 8" in any dimension.
      c. Brush stobs shall be less than 2" in height.
   C. Provisions
      a. Mastication shall be suspended during red flag warnings or any other time where the operation of the machine presents an elevated risk of starting a fire.

III. General Provisions for Piling on Private Land
   A. 90% of all slash and organic debris exceeding 24" in length and 3" in diameter shall be piled for burning.
B. 90% of live or dead brush shall be cut or uprooted, crushed, and piled for burning.
C. 90% of trees smaller than 8" DBH shall be cut or uprooted and piled for burning.
D. Material longer than will safely or prudently fit into a pile shall be cut to such a length that it may be piled and burned safely.
E. Piles shall be constructed in such a manner as to avoid damaging leave trees during burning, and in such a location that the nearest edge of the pile is no less than 15’ from the dripline of the nearest leave tree, and no less than 15’ from the nearest drainage, WLPZ, STZ, or project boundary, and no less than 30’ from any snag.
   a. Any pile that will result in damage to leave trees upon burning, as judged by the contract administrator, shall be dismantled and masticated or chipped.
F. Piles shall be 90% free of soil. Piles that contain excessive soil, as determined by the contract administrator, shall be dismantled and re-piled. Excess soil shall be dispersed over the area adjacent to the pile.
G. Piles shall be approximately equal in length and width, and the height shall be at least half of the diameter.
H. Material that hangs out of the edge of the pile greater than 6’ shall be cut off and added to the pile.
I. Piles shall be constructed such that logs or any other material will not roll downhill during pile construction and pile burning.
J. Control lines shall be established around each pile. Control lines shall be no less than 6’ wide and cleared down to bare mineral soil.
K. The contractor shall create the smallest number of piles while maintaining compliance with the provisions described above.
L. Reasonable care shall be taken to retain as much ground cover as feasible for the purpose of preventing erosion.

IV. Mechanical Piling
   A. Equipment
      a. Bladed equipment that will be used to push material into a pile shall be equipped with a brush rake, the teeth of which shall extend no less than 6 inches below the lowest portion of the blade.
      b. Excavators shall be equipped with a bucket (with teeth) and a thumb, or a brush grapple.
      c. Skid steers, excavators, bulldozers, heel-boom loaders, or any other machine capable of completing the work to the specifications described under “General Provisions for Piling” will be acceptable for mechanical piling.

V. General Provisions for Falling
   A. Trees that are 8” DBH or smaller and dead or dying trees are targeted for removal.
   B. Where dying trees are targeted for removal, they shall be marked by a Registered Professional Forester prior to the start of operations in that area.
      a. The RPF and Contractor shall have an on-site meeting to review the mark prior to operations.
   C. Stumps shall be less than 6” high measured on the uphill side.
      a. Stump heights between 6” and 8” are acceptable where conditions preclude a stump height of less than 6”. In no case shall more than 10% of stumps be 6” or taller.
   D. No tree shall be felled into any protective zone, including, but not limited to, Watercourse and Lake Protection Zones, Special Treatment Zones, any watercourse channel, or felled in such a
manner as to endanger property. Trees shall be felled in such a manner as to minimize damage
to leave trees. Zones will be determined by the RPF.

E. Any tree that has “hung up” shall be immediately addressed and made safe by the contractor.
“Hung up” means that, after the cut, the bole of the tree is not on the ground. If there is any delay
in mitigating a hang-up, the contractor shall notify all crews and personnel working in the area
and flag off the area with their choice of color flagging which will be communicated and known
to the contractor.

VI. Mechanical Falling

A. In areas where heavy equipment is allowed to operate, feller-bunchers or other machines
capable of falling trees to the specifications above may be used.

B. Mechanical falling shall be suspended during red flag warnings or any other time where the
operation of the machine presents an elevated risk of starting a fire.
APPENDIX G
GUIDELINES FOR OPERATIONS

The following Guidelines for Operations apply to activities under this contract, when relevant to the project. These guidelines are intended to clarify the expectations of the parties related to these specific areas of operations.

1. **Project Area Map (Map).** This is the boundary of the Project Area as shown in Appendix C and designated on the ground by the Forest Service to meet the anticipated needs of the parties. The following are identified on the Map:
   
   a) Boundaries of all harvest and treatment units.
   b) Specified roads.
   c) Roads and trails to be kept open.
   d) Locations of areas known to be infested with specific invasive species of concern.

2. **Use of Roads by the Partner.** Partner is/are authorized to use existing National Forest system roads and specified roads. The Parties will determine that such use will not cause damage to the roads or National Forest resources.

3. **Protection of Residual Trees.** Partner’s operations shall not unnecessarily damage young growth or other trees to be reserved.

4. **Safety.** Partner’s operations shall facilitate the Forest Service’s safe and practical inspection of Partner’s operations and conduct of other official duties on the Project Area. Partner has/have all responsibility for compliance with safety requirements for Partner's employees.

   When operations are in progress adjacent or on Forest Service controlled roads and trails open to public travel, Partner shall furnish, install, and maintain all temporary traffic controls that provide the user with adequate warming of hazardous or potentially hazardous conditions associated with operations occurring in the area. The parties shall agree to a specific traffic control plan prior to commencement of work. Devices shall be appropriate to current conditions and shall be covered or removed when not needed.

   During periods of general recreation activity within Project Area or vicinity, the Forest Service may restrict road construction, timber cutting, yarding, and other harvesting operations to days other than Saturdays, Sundays, and holidays.

LOGGING AND MAINTENANCE OPERATIONS SIGNING STANDARDS

All signs must be manufactured & installed as specified in the FHWA "Manual on Uniform Traffic Control Devices" (MUTCD) & FS publication "Standards for Forest Service Signs & Posters" (EM 7100-15).
SIGN STANDARDS

SHAPE & COLOR: Generally, signs for logging and maintenance operations are either diamond-shaped or rectangular. All signs are **reflective orange background with black legend and border** unless shown otherwise. Handpainted, homemade signs are not legal. Fluorescent paint is not reflectorized.

SUBSTRATE: Sign substrate material may be High Density Overlay (HDO) Plywood, Aluminum, Fiberglass Reinforced Plastic, Corrugated Plastic or Roll-up Fabrics.

SIGN SIZE: Sign size is a factor of speed and MUTCD & FS standards. Where conditions of speed, volume, or special hazard require greater visibility or emphasis, larger signs should be used. Minimum sizes for the most common signs can be found in Figure 4. Refer to the EM-7100-15 for additional sign sizes.

LEGEND: All lettering shall be Series "C" alphabet, conforming to Standard Alphabets for Highway Signs. Letter size is also a function of speed - use letter size and word messages as specified in MUTCD and EM-7100-15.

SIGN PLACEMENT

Signs are to be installed in locations as agreed to in the traffic control plan. All signs are to be removed, covered, or folded when operations are not in progress or the sign message is not applicable. Signs should generally be located on the right-hand side of the roadway. When special emphasis is needed, signs may be placed on both the left and right sides of the road. Sign message shall be clearly visible to road users, mounted on posts or portable sign stands.

**LATERAL CLEARANCE**

From the edge of the road - 2 foot minimum, where slope limits to less than 6 feet. 6-12 foot preferred.

**HEIGHT**

Minimum of 7 feet, measured from the bottom of the sign to the near edge of the travelway. The height to the bottom of a supplemental sign mounted below the primary sign will be 6 feet.

Dimensions
**PLACEMENT DISTANCE**

Signs must be located 100-500 feet prior to the activity, (both ends if a through road) and maintained at that distance. This distance is based on speed. Refer to Figure 2, Table II-1, MUTCD, a portion of which is reproduced here, to determine correct placement distance.

<table>
<thead>
<tr>
<th>Speed (MPH)</th>
<th>Post or plate distance (yards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>20</td>
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<td>10</td>
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<td>60</td>
<td>550</td>
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<tr>
<td>65</td>
<td>600</td>
</tr>
</tbody>
</table>

Figure 2: A Portion of MUTCD TABLE II-1

**SIGN SUPPORTS**

**POSTS:** Signs are to be mounted on separate posts. Supplemental signs such as Speed Advisory plates are to be mounted on the same post as the primary sign. *Do not mount signs on trees or other signs.* Posts may be wood, metal, carsonite or similar material. Where sign supports cannot be sufficiently offset from the road edge, supports will meet breakaway standards. Single wood posts with less than 24 square inches do not require breakaway design.

**TEMPORARY/PORTABLE SUPPORTS:** Portable supports may be used for short-term, short-duration, and mobile conditions. MUTCD defines this time period as one work shift, 12 hours or less. All portable supports must meet MUTCD standards, including breakaway. These must be a minimum of 1 foot above the road surface or more if visibility requires it.

![Figure 3: Examples of Temporary/Portable Supports](image)

**SIGNS**

The following signs meet the intent of the Safety standard. *This is not a complete listing of signs that may be needed.*

- **FG20-1-48***
- **FG20-2-48***
- **FG20-3-42***
- **FG20-3a-42***
- **FW22-3-30***
5. **Accident and Injury Notification.** Partner shall notify Forest Service of any lost time personal injury accident or any accident or vandalism resulting in personal property damage over $400 in value that occurs as a result of or is associated with Partner’s Operations.

Partner shall notify Forest Service within 8 hours of any personal injury accident. For vandalism and personal property accidents, Partner shall notify Forest Service at the same time notification is given to the state and local law enforcement authorities.

Partner shall take all reasonable measures after an accident or vandalism event to preserve the scene of the incident and provide information to facilitate a Forest Service investigation.

6. **Sanitation and Servicing.** Partner shall take all reasonable precautions to prevent pollution of air, soil, and water by Partner’s operations. Precautions shall include if facilities for employees are established on the Project Area, they shall be operated in a sanitary manner. The parties shall agree to the cleanup and restoration of a polluted site. Partner shall maintain all equipment operating on Project Area in good repair and free of abnormal leakage of...
lubricants, fuel, coolants, and hydraulic fluid. Partner shall not service tractors, trucks, or other equipment on National Forest lands where servicing is likely to result in pollution to soil or water. Partner shall furnish oil-absorbing mats for use under all stationary equipment or equipment being serviced to prevent leaking or spilled petroleum-based products from contaminating soil and water resources. Partner shall remove from National Forest lands all contaminated soil, vegetation, debris, vehicle oil filters (drained of free-flowing oil), batteries, oily rags, and waste oil resulting from use, servicing, repair, or abandonment of equipment.

7. **Prevention of Oil Spills.** If Partner maintain(s) storage facilities for oil or oil products on the Project Area, Partner shall take appropriate preventive measures to ensure that any spill of such oil or oil products does not enter any stream or other waters of the United States or any of the individual States. If the total oil or oil products storage exceeds 1,320 gallons in containers of 55 gallons or greater, Partner shall prepare a Spill Prevention Control and Countermeasures Plan. Such plan shall meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer. Partner shall notify the Forest Service and appropriate agencies of all reportable (40 CFR 110) spills of oil or oil products on or in the vicinity of the Project Area that are caused by Partner’s employees, agents, sub-Partners or their employees or agents, directly or indirectly, as a result of Partner’s operations. Partner will take whatever initial action may be safely accomplished to contain all spills.

8. **Hazardous Substances.** Partner shall notify the National Response Center and Forest Service principal contact of all releases of reportable quantities of hazardous substances on or in the vicinity of the Project Area that are caused by Partner’s employees, agents, sub-Partners or their employees or agents, directly or indirectly, as a result of Partner’s operations, in accordance with 40 CFR 302.

9. **Cleaning Equipment.** In order to prevent the spread of noxious weeds into the Project Area, the Partner shall be required to clean all off-road logging and construction equipment prior to entry on to the Project Area. This cleaning shall remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Only logging and construction equipment so cleaned and inspected by the Partner will be allowed to operate within the Project Area. All subsequent move-ins of equipment to the Project Area shall be treated in the same manner as the initial move in. “Off-road equipment” includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles.

Partner shall employ whatever cleaning methods are necessary to ensure that off-road equipment is free of noxious weeds. Equipment shall be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required.

As agreed upon, Partner shall inspect equipment at cleaning location, and provide documentation of inspection to the Forest Service.
New infestations of noxious weeds, of concern to Forest Service and identified by either Partner or Forest Service, on the Project Area or on the haul route, shall be promptly reported to the other party. Partner and Forest Service shall agree on treatment methods to reduce or stop the spread of noxious weeds when new infestations are found. A current list of noxious weeds of concern to Forest Service is available at each Forest Service office.

10. **Felling and Bucking.** Felling shall be done to minimize breakage of included timber and damage to residual timber. Unless agreed otherwise, felling shall be done by saws or shears. Bucking shall be done to permit removal of all minimum pieces. Partner may buck out cull material when necessary to produce pieces meeting utilization standards. If necessary to assess extent of defect, Partner shall make sample saw cuts or wedges.

11. **Felling in Clearings.** Insofar as ground conditions, tree lean, and shape of clearings permit, trees shall be felled so that their tops do not extend outside clearcutting units, construction clearings, and areas of regeneration cutting.

12. **Stump Heights.** Stumps shall not exceed, on the side adjacent to the highest ground, the maximum heights set forth in Appendix E except that occasional stumps of greater heights are acceptable when Partner determine(s) that they are necessary for safe and efficient conduct of logging. Unless otherwise agreed, Partner shall re-cut high stumps so they will not exceed heights specified in F-14 and shall dispose of severed portions in the same manner as other logging debris. The stump heights shown in Appendix F were selected with the objective of maximum reasonable utilization of the timber, unless the Map shows special areas where stump heights are lower for aesthetic, land treatment, or silvicultural reasons.

13. **Protection of Streamcourses.** Partner’s Operations shall be conducted to prevent debris from entering streamcourses, except as may be authorized under paragraph (d). In event Partner cause(s) debris to enter streamcourses in amounts that may adversely affect the natural flow of the stream, water quality, or fishery resource, Partner shall remove such debris as soon as practicable, but not to exceed 2 days, and in an agreed manner that will cause the least disturbance to streamcourses.

   a) Culverts or bridges shall be required on Temporary Roads at all points where it is necessary to cross Streamcourses. Such facilities shall be of sufficient size and design and installed in a manner to provide unobstructed flow of water and to minimize damage to streamcourses. Trees or products shall not be otherwise hauled or yared across streamcourses unless fully suspended.

   b) Wheeled or track-laying equipment shall not be operated in streamcourses, except at crossings agreed to by Partner and the Forest Service or as essential to construction or removal of culverts and bridges.

   c) Flow in streamcourses may be temporarily diverted only if such diversion is necessary for Partner’s planned construction and Forest Service gives written authorization. Such flow shall be restored to the natural course as soon as practicable and, in any event, prior to a major storm runoff period or runoff season.
14. **Erosion Prevention and Control.** Partner’s operations shall be conducted reasonably to minimize soil erosion. Equipment shall not be operated when ground conditions are such that excessive damage will result. Partner shall adjust the kinds and intensity of erosion control work done, to ground conditions and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff.

Prior to periods of accelerated water runoff, especially during the spring runoff and periods of heavy rainfall, commensurate with its use, Partner shall inspect and open culverts and drainage structures, construct special cross ditches for road runoff, and take other reasonable measures needed to prevent soil erosion and siltation of streams.

Unless otherwise agreed in writing, after September 15 of each operating season, erosion control work must be kept current. Partner shall complete erosion prevention and control work, including streamcourse protection, within 15 calendar days after completion of skidding and/or yarding operations for each landing.

Designation of on the ground work shall be done as promptly as feasible unless it is agreed that the location of such work can be established without marking on the ground.

During periods of accelerated water runoff, especially during the spring runoff and periods of heavy rainfall, commensurate with its use, Partner shall inspect and open culverts and drainage structures, construct special cross ditches for road runoff, and take other reasonable measures needed to prevent soil erosion and siltation of streams.

When operations are active, erosion control work will be kept current and will be completed as soon as practicable. Additionally, FS may require special erosion prevention measures which may include, but not limited to; use of certified weed free straw, wood chips, slash, mulch, etc. on areas of bare soil with high erosion hazard potential.

15. **Protection of Improvements.** So far as practicable, Partner shall protect specified roads and other improvements (such as roads, trails, telephone lines, ditches, and fences):
   a) Existing in the operating area,
   b) Determined to have a continuing need or use, and
   c) Designated on the Map.

Partner shall keep roads and trails needed for fire protection or other purposes and designated on the Map reasonably free of equipment and products, slash, and debris resulting from Partner’s operations. Partner shall make timely restoration of any such improvements damaged by Partner’s operations and, when necessary because of such operations, shall move such improvements.

16. **Meadow Protection.** Reasonable care shall be taken to avoid damage to the cover, soil, and water in meadows shown on the Map. Vehicular or skidding equipment shall not be used on meadows, except where roads, landings, and tractor roads are approved. Unless otherwise
agreed, trees felled into meadows shall be removed by endlining. Resulting logging slash shall be removed where necessary to protect cover, soil, and water.

17. **Wetlands Protection.** Wetlands requiring protection under Executive Order 11990 are shown on the Map. Vehicular or skidding equipment shall not be used in such wetlands, except where roads, landings, and tractor roads are approved.

18. **Current Operating Areas.** Where project work is in progress but not completed, unless agreed to otherwise, Partner shall, before operations cease annually, remove all temporary log culverts and construct temporary cross drains, drainage ditches, dips, berms, culverts, or other facilities needed to control erosion. Such protection shall be provided, for all disturbed, unprotected ground that is not to be disturbed further prior to end of operations each year, including roads and associated fills, tractor roads, skid trails, and fire lines. When weather permits operations, Partner shall keep such work on any additional disturbed areas as up to date as practicable.

19. **Erosion Control Structure Maintenance.** During the period of this contract, Partner shall provide maintenance of soil erosion control structures constructed by Partner until they become stabilized, but not for more than one year after their construction. **No tightly woven fiber mesh or plastic monofilament netting shall be used for soil stabilization.**

20. **Slash Disposal.** Partner’s timing of product removal and preparatory work shall not unnecessarily delay slash disposal. Specific slash disposal measures to be employed by Partner are stated in Appendix E.

21. **Fire Precautions and Control**
   a) **Plans.** Prior to initiating Partner’s operations during Fire Precautionary Period, Partner shall file with Forest Service a Fire Prevention and Control Plan providing for the prevention and control of fires on the Project Area and other areas of Partner’s Operations. Such plan shall include a detailed list of personnel and equipment at Partner disposal for implementing the plan.

   b) **Fire Precautions.** Specific fire precautionary measures listed in this Appendix shall be applicable during Partner’s Operations in “Fire Precautionary Period” described. The dates of Fire Precautionary Period may be changed by agreement, if justified by unusual weather or other conditions. Required tools and equipment shall be kept in serviceable condition and immediately available for fire fighting at all times during Partner’s operations in Fire Precautionary Period.

   c) **Substitute Precautions.** The Forest Service may authorize substitute measures or equipment, or waive specific requirements by written notice, if substitute measures or equipment will afford equal protection or some of the required measures and equipment are unnecessary.

   d) **Emergency Precautions.** The Forest Service may require the necessary shutting down of equipment on portions of Partner’s Operations, as specified by the emergency fire
precautions schedule. Under such conditions, after Partner cease(s) active operations, Partner shall release for hire by Forest Service, if needed, Partner’s shutdown equipment for fire standby on the Project Area or other areas of Partner’s Operations and personnel for fire standby or fire patrol, when such personnel and equipment are not needed by Partner for other fire fighting or protection from fire. Equipment shall be paid for at fire fighting equipment rates common in the area or at prior agreed rates and, if Partner request(s), shall be operated only by personnel approved by the Partner. Personnel so hired shall be subject to direction and control by Forest Service and shall be paid by Forest Service at fire fighting rates common in the area or at prior agreed rates.

e) **Fire Precautionary Period and Fire Precautions.** Specific fire precautionary measures are set forth below. Upon request of Forest Service, Partner shall permit and provide an individual to assist in periodic testing and inspection of required fire equipment. Partner shall promptly remedy deficiencies found through such inspecting and testing.

1. The following requirements shall apply during the period April 1- December 1 and during other such periods as specified by Forest Service.

2. See fire plan

22. **Fire Control.** Partner shall, both independently and in cooperation with Forest Service, take all reasonable and practicable action to prevent and suppress fires resulting from Partner’s Operations and to suppress any forest fire on Project Area. Partner’s independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at Partner’s disposal on Project Area or within the distance of Project Area: (Initial fire suppression within 25 road miles, and fire suppression reinforcement within 100 miles).

a) **The Partner’s Reinforcement Obligations.** Whenever an Operations Fire or Negligent Fire, whether on or off Project Area or any other forest fire on Project Area, has not been suppressed by initial action and appreciable reinforcement strength is required, Forest Service may require further actions by Partner until such fire is controlled and mopped up to a point of safety. Such actions may include any or all of the following as necessary to fight such fire:

b) **Suspend Operations.** To suspend any or all of Partner’s Operations.

c) **Personnel.** To release for employment by Forest Service any or all of Partner’s personnel engaged in Partner’s Operations or timber processing within the distance of Project Area: (25 Road miles). Any organized crew so hired shall include Partner’s supervisor, if any. Personnel so employed shall be paid at Forest Service standard emergency fire fighting rates.

d) **Equipment.** To make available for Forest Service rental at fire fighting equipment rates common in the area or at prior agreed rates any or all of Partner’s equipment suitable for fire fighting and currently engaged in Partner’s Operations within the distance of Project
Area: (100 Road miles). Equipment shall be operated only by personnel approved by Partner, if so requested by Partner.

**Limited Liability for Operations Fires.**

**Maximum Amount of Partner's Obligation per Operation's Fire.** Entry should be determined as follows and rounded up to the nearest $100. The minimum amount will be $1,000.00. If State statute or law defines limited liability, use that determination (e.g., Oregon), otherwise calculate the amount using the following formula:

\[
[(1) \times (2) + (3) \times (4)] \times (5) = \text{Maximum Amount of Cooperator’s Obligation per Operations Fire. Round up to the next $100.}
\]

1. Equals the number of workers normally required to operate the size of proposed project.
   - 4 Workers

2. Equals the daily (12 hour) wage rate for semi-skilled (AD-1) firefighter.
   - $15.50/Hr. \times 12 hours = $186

3. Equals the number of pieces of equipment normally required to operate the size of proposed project that can effectively cut and clear fire lines.
   - 4 Pieces of equipment

4. Average daily rate for each piece of equipment, including cost of operator, from current local engineering cost guide.
   - $120/Hr. \times 12 hours = $1440/12hr.

5. Equals the number of days normally required to control and mop up such fires to a point where control lines can reasonably be expected to hold under foreseeable conditions. Minimum is one day and maximum is 10.
   - 5 days

**Partner’s Obligation per Operations Fire,**

<table>
<thead>
<tr>
<th>Maximum</th>
<th>51,389</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount:</td>
<td>$__________</td>
</tr>
</tbody>
</table>
APPENDIX H: FIRE PLAN FOR CONSTRUCTION AND SERVICE CONTRACTS

1. **SCOPE:**

   The provisions set forth below outline the responsibility for fire prevention and suppression activities and establish a suppression plan for fires within the contract area. The contract area is delineated by map in the contract. The provisions set forth below also specify conditions under which contract activities will be curtailed or shut down.

2. **RESPONSIBILITIES:**

   A. Contractor

      (1) Shall abide by the requirements of this Fire Plan.

      (2) Shall take all steps necessary to prevent his/her employees, subcontractors and their employees from setting fires not required in completion of the contract, shall be responsible for preventing the escape of fires set directly or indirectly as a result of contract operations, and shall extinguish all such fires which may escape.

      (3) Shall permit and assist in periodic testing and inspection of required fire equipment. Contractor shall certify compliance with specific fire precautionary measures in the fire plan, before beginning operations during Fire Precautionary Period and shall update such certification when operations change.

      (4) Shall designate in the Fire Plan and furnish on Contract Area, during operating hours, a qualified fire supervisor authorized to act on behalf of Contractor in fire prevention and suppression matters.

   B. Forest Service

      The Forest Service may conduct one or more inspections for compliance with the Fire Plan. The number, timing, and scope of such inspections will be at the discretion of agency employees responsible for contract administration. Such inspections do not relieve the Contractor of responsibility for correcting violations of the fire plan or for fire safety in general, as outlined in paragraph 2.A above.

3. **DEFINITIONS:**

   The following definitions shall apply:

   **Active Landing:** A location the contractor may be skidding logs into, or performing other operations such as delimbing, log manufacturing, and chipping logs. Except for EV and E days, loading logs or stockpiling chips only, on a cleared landing, does not constitute an Active Landing.

   **Hot Saw:** A harvesting system that employs a high-speed (>1100 rpm) rotating felling head, i.e., full rotation lateral tilt head.

   **Mechanical Operations:** The process of felling, skidding, chipping, shredding, masticating, piling, log processing and/or yarding which requires the use of motorized power which includes, chainsaws, chippers, motorized carriages, masticators, stroke delimiters, skidders, dozers etc.

4. **TOOLS AND EQUIPMENT:**

   The Contractor shall comply with the following requirements during the fire precautionary period, as defined by unit administering contracts:

   **The Fire Precautionary Period is set by the State of California which is April 1 through December 1 of any year.**
This contract requires, does not require, a Fire Box and associated Fire Tools according to CPRC Section 4428.

A. Fire Tools and Equipment: Contractor shall meet minimum requirements of Section 4428 of the California Public Resources Code (C.P.R.C.). Fire tools kept at each operating landing shall be sufficient to equip all employees in the felling, yarding, loading, chipping, and material processing operations associated with each landing. Fire equipment shall include two tractor headlights for each tractor dozer used in Contractor's Operations. Tractor headlights shall be attachable to each tractor and served by an adequate power source. All required fire tools shall be maintained in suitable and serviceable condition for fire fighting purposes.

Trucks, tractors, skidders, pickups and other similar mobile equipment shall be equipped with and carry at all times a size 0 or larger shovel with an overall length of not less than 46 inches and a 2-1/2 pound axe or larger with an overall length of not less than 28 inches.

Where cable yarding is used, Contractor shall provide a size 0 or larger shovel with an overall length of not less than 46 inches and a filled backpack can (4 or 5 gallon) with hand pump within 25 feet of each tail and corner block.

B. Fire Extinguishers: Contractor shall equip each internal combustion yarder, fuel truck, and loader with a fire extinguisher for oil and grease fires (4-A:60-B:C).

Skidders and tractors shall be equipped with a minimum 5-BC fire extinguisher.

All Fire Extinguishers shall be mounted, readily accessible, properly maintained and fully charged. Contractor shall equip each mechanized harvesting machine with hydraulic systems, powered by an internal combustion engine (chipper, feller/buncher, harvester, forwarder, hot saws, stroke delimber, etc.), except tractors and skidders, with at least two 4-A:60-B:C fire extinguishers or equivalent.

C. Spark Arresters and Mufflers: Contractor shall equip each operating tractor and any other internal combustion engine with a spark arrester, except for motor vehicles equipped with a maintained muffler as defined in C.P.R.C. Section 4442 or tractors with exhaust-operated turbochargers. Spark Arresters shall be a model tested and approved under Forest Service Standard 5100-1a as shown in the National Wildlife Coordinating Group Spark Arrester Guide, Volumes 1 and 2, and shall be maintained in good operating condition. Every motor vehicle subject to registration shall at all times be equipped with an adequate exhaust system meeting the requirements of the California Vehicle Code.

D. Power Saws: Each power saw shall be equipped with a spark arrester approved according to C.P.R.C. Section 4442 or 4443 and shall be maintained in effective working order. An Underwriters Laboratories (UL) approved fire extinguisher containing a minimum 14 ounces of fire retardant shall be kept with each operating power saw. In addition, a size 0 or larger shovel with an overall length of not less than 38 inches shall be kept with each gas can not more than 300 feet from each power saw when used off cleared landing areas.

This contract requires, does not require, Section 4E of the Fire Plan.

E. Tank Truck or Trailer: Contractor shall provide a water tank truck or trailer on or in proximity to Contract Area during Contractor's Operations hereunder during Fire Precautionary Period. When Project Activity Level B or higher is in effect, a tank truck or trailer shall be on or immediately adjacent to each active landing, unless otherwise excepted when Hot Saws or Masticators are being used. See Section 6 for specific contract requirements.

The tank shall contain at least 300 gallons of water available for fire suppression. Ample power and hitch shall be readily available for promptly and safely moving tank over roads serving Contract Area. Tank truck or trailer shall be equipped with the following:

(1) Pump, which at sea level, can deliver 23 gallons per minute at 175 pounds per square inch measured at the pump outlet. Pumps shall be tested on Contract Area using a 5/16 inch orifice in the Forester One Inch In-Line Gauge test kit. Pump shall meet or exceed the pressure value in the following table for nearest temperature and elevation:
<table>
<thead>
<tr>
<th>Temp</th>
<th>Sea Level Feet</th>
<th>1000 Feet</th>
<th>2000 Feet</th>
<th>3000 Feet</th>
<th>4000 Feet</th>
<th>5000 Feet</th>
<th>6000 Feet</th>
<th>7000 Feet</th>
<th>8000 Feet</th>
<th>9000 Feet</th>
<th>10000 Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>179</td>
<td>23</td>
<td>174</td>
<td>23</td>
<td>169</td>
<td>23</td>
<td>165</td>
<td>22</td>
<td>161</td>
<td>22</td>
<td>157</td>
</tr>
<tr>
<td>70</td>
<td>175</td>
<td>23</td>
<td>171</td>
<td>23</td>
<td>166</td>
<td>22</td>
<td>162</td>
<td>22</td>
<td>158</td>
<td>22</td>
<td>154</td>
</tr>
<tr>
<td>85</td>
<td>171</td>
<td>23</td>
<td>168</td>
<td>23</td>
<td>163</td>
<td>22</td>
<td>159</td>
<td>22</td>
<td>155</td>
<td>22</td>
<td>151</td>
</tr>
<tr>
<td>100</td>
<td>168</td>
<td>23</td>
<td>164</td>
<td>23</td>
<td>159</td>
<td>22</td>
<td>155</td>
<td>22</td>
<td>152</td>
<td>22</td>
<td>148</td>
</tr>
</tbody>
</table>

The pump outlet shall be equipped with 1-1/2 inch National Standard Fire Hose thread. A bypass or pressure relief valve shall be provided for other than centrifugal pumps.

(2) 300 feet of 3/4-inch inside diameter rubber-covered high-pressure hose mounted on live reel attached to pump with no segments longer than approximately 50 feet, when measured to the extreme ends of the couplings. Hose shall have reusable compression wedge type 1-inch brass or lightweight couplings (aluminum or plastic). One end of hose shall be equipped with a coupling female section and the other end with a coupling male section. The hose shall, with the nozzle closed, be capable of withstanding 200 PSI pump pressure without leaking, distortions, slipping of couplings, or other failures.

(3) A shut-off combination nozzle that meets the following minimum performance standards when measured at 100 P.S.I. at the nozzle:

<table>
<thead>
<tr>
<th></th>
<th>G.P.M.</th>
<th>Horizontal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Stream</td>
<td>10</td>
<td>38 feet</td>
</tr>
<tr>
<td>Fog Spray</td>
<td>6 - 20</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(4) Sufficient fuel to run the pump at least 2 hours and necessary service accessories to facilitate efficient operation of the pump.

When Contractor is using Hot Saws or Masticators, an additional 250 feet of light weight hose, approved by the Forest Service, shall be immediately available for use and be capable of connecting to the 300 feet of hose and appurtenances in (2) and (3) above.

This equipment and accessories shall be deliverable to a fire in the area of operations and is subject to the requirements for each specific activity level identified in Section 6.

**F. Compressed Air Foam System:** A Compressed Air Foam System (CAFS) is a fire suppression system where compressed air is added to water and a foaming agent. By agreement, Contractor may substitute a CAFS or functional equivalent in lieu of the tank truck, trailer or fire extinguishers, provided it meets or exceeds the following specifications and requirements:

2. Units shall be kept fully charged with air; water and foam concentrate as recommended by the manufacturer and have the appropriate tools to service the system.
3. The unit shall contain enough energy to empty tank and clear hose prior to exhausting propellant.
4. The unit shall be capable of being completely recharged within 10 minutes.
5. When used on cable yarding landings, the unit shall be outfitted for immediate attachment to carriage and transported without damage to the unit.
Fire extinguishers required for Hot Saws, Masticators and similar equipment identified in Section 4 B. above may be substituted with a 3-gallon CAFS.

Tank truck, trailer or equivalent may be substituted with a 30 Gallon CAFS with at least 550 feet of one inch hose and an adjustable nozzle with enough water, air and foam concentrate for at least one recharge.

This equipment and accessories shall also be deliverable to a fire in the area of operations and subject to the requirements for each specific activity level identified in Section 6.

5. **GENERAL**

A. **State Law:** In addition to the requirements in this Fire Plan, the Contractor shall comply with all applicable laws of the State of California. In particular, see California Public Resource Codes.

B. **Permits Required:** The Contractor must secure a special written permit from the District Ranger or designated representative before burning, welding or cutting metal or starting any warming fires. If contract requires Blasting and Storing of Explosives and Detonators, an Explosives Permit may be required pursuant to the California Health and Safety Code, Section 12101.

C. **Blasting:** Contractor shall use electric caps only unless otherwise agreed in writing. When blasting is necessary in slash areas, a Fire Patroliperson equipped with a size 0 or larger shovel with an overall length of not less than 46 inches and a filled backpack can (4 or 5 gallon) with hand pump shall remain in the immediate area for an hour after blasting has been completed.

D. **Smoking:** Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter. In areas closed to smoking, the CO may approve special areas to be used for smoking. The Contractor shall sign designated smoking areas. Contractor shall post signs regarding smoking and fire rules in conspicuous places for all employees to see. Contractor's supervisory personnel shall require compliance with these rules. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment, or walking or working in grass and woodlands.

E. **Storage and Parking Areas.** Equipment service areas, parking areas, and gas and oil storage areas shall be cleared of all flammable material for a radius of at least 10 feet unless otherwise specified by local administrative unit. Small mobile or stationary internal combustion engine sites shall be cleared of flammable material for a slope distance of at least 10 feet from such engine. The COR shall approve such sites in writing.

F. **Reporting Fires:** As soon as feasible but no later than 15 minutes after initial discovery, Contractor shall notify Forest Service of any fires on Contract Area or along roads used by Contractor. Contractor's employees shall report all fires as soon as possible to any of the following Forest Service facilities and/or personnel listed below, but not necessarily in the order shown:

<table>
<thead>
<tr>
<th>Dispatch Center</th>
<th>Name</th>
<th>Office Address</th>
<th>Office telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearest FS Station</td>
<td>High Sierra Ranger</td>
<td>Sierra NF 29688 Auberry Road, Prather, CA 93651</td>
<td>559-855-5355</td>
</tr>
<tr>
<td>Inspector</td>
<td>Molly Murray</td>
<td>Prather, CA</td>
<td>559-855-5355 ext</td>
</tr>
<tr>
<td>COR</td>
<td>Ray Acker</td>
<td>Prather, CA</td>
<td>559-855-5355 ext</td>
</tr>
<tr>
<td>District Ranger</td>
<td>Kim Sorini-Wilson</td>
<td>Prather, CA</td>
<td>559-855-5355 ext 3340</td>
</tr>
</tbody>
</table>

When reporting a fire, provide the following information:

- Your Name
- Call back telephone number
- Project Name
Location: Legal description (Township, Range, Section); and Descriptive location (Reference point)

Fire Information: Including Acres, Rate of Spread and Wind Conditions.

This contract ✗ requires, ☐ does not require, Section 5G of the Fire Plan.

G. Communications: Contractor shall furnish a serviceable telephone, radio-telephone or radio system connecting each operating side with Contractor's headquarters. When such headquarters is at a location which makes communication to it clearly impractical, Forest Service may accept a reasonable alternative location. The communication system shall provide prompt and reliable communications between Contractor's headquarters (or agreed to alternative) and Forest Service via commercial or Forest Service telephone.

This contract ✗ requires, ☐ does not require, Section 5H of the Fire Plan.

H. Fire Patrolperson: Contractor shall furnish a qualified fire patrolperson each operating day when Project Activity Level C or higher is in effect. When on duty, sole responsibility of patrolperson shall be to patrol the operation for prevention and detection of fires, take suppression action where necessary and notify the Forest Service as required. This Fire patrol is required on foot, unless otherwise agreed. By agreement, one patrolperson may provide patrol on this and adjacent projects. No patrolperson shall be required on Specified Road construction jobs except during clearing operations unless otherwise specified.

The Contractor shall, prior to commencing work, furnish the following information relating to key personnel:

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Supervisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Patrolperson</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I. Clearing of Fuels: Contractor shall clear away, and keep clear, fuels and logging debris as follows:

<table>
<thead>
<tr>
<th>Welding equipment and stationary log loaders, yarders and other equipment listed in California State Law:</th>
<th>10 feet slope radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tail or corner haulback blocks:</td>
<td>All running blocks shall be located in the center of an area cleared to mineral soil at least 15 feet in diameter.</td>
</tr>
<tr>
<td>Lines near, between or above blocks:</td>
<td>Sufficient clearing to prevent line from rubbing on snags, down logs and other dead woody material.</td>
</tr>
</tbody>
</table>

6. EMERGENCY PRECAUTIONS

Contractor's Operations shall conform to the limitations or requirements in the Project Activity Level (PAL) table below. Project Activity Levels applicable to this project shall be the predicted activity levels for the Fire Danger Rating Area(s), or fire weather station(s) stated in the Contract Area Map Legend on Integrated Resource Service Contracts (IRSC’s), and other contracts where applicable.

Fire Danger Rating Area/Fire Weather Station for Project: All project areas = MT REST

The Forest Service, in its sole discretion, may change the predicted activity level if the current fire suppression situation, weather and vegetation conditions warrant an adjustment. If practicable, Forest Service will determine the following day’s activity level by 6:00 PM. Contractor shall obtain the predicted Project Activity Level from the appropriate Ranger District Office before starting work each day.

Phone Number or Website to obtain Predicted Activity Levels: 559-500-4488
Forest Service may change the Project Activity Level Table to other values upon revision of the National Fire Danger Rating System. When Contractor is notified, the revised Project Activity Levels will supersede the levels in the Project Activity Level Table below.

### PROJECT ACTIVITY LEVEL

<table>
<thead>
<tr>
<th>Level</th>
<th>Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Minimum requirements noted above in Sections 4 and 5.</td>
</tr>
<tr>
<td>B</td>
<td>1. Tank truck, trailer, or approved CAFS substitute shall be on or adjacent to the Active Landing.</td>
</tr>
</tbody>
</table>
| C     | 1. When Hot Saws or Masticators are operating, a tank truck, trailer, or approved CAFS substitute shall be within ¼ mile of these operations. Effective communications shall exist between the operator and the Active Landing.  
2. Immediately after Mechanical Operations cease, Fire patrol is required for two hours. |
| D     | 1. Immediately after Hot Saw or Masticator operations cease, Fire patrol is required for three hours.              
2. No Dead Tree felling after 1:00 PM, except recently dead.                                                     
3. No burning, blasting, welding or cutting of metal after 1:00 PM, except by special permit.                   |
| Ev    | 1. The following activities may operate all day:                                                                       
   a) Loading and hauling logs decked at approved landings.                                                     
   b) Loading and hauling chips stockpiled at approved landings.                                                
   c) Servicing equipment at approved sites.                                                                     
   d) Dust abatement, road maintenance (Chainsaw use prohibited), culvert installation within cleared area, chip sealing, paving, earth moving or rock aggregate stockpile loading and installation (does not include pit or quarry development). 
   e) Chainsaw and log processing operations associated with loading logs or other forest products at approved landings.  
2. Hot Saws or Masticators may operate until 1:00 PM; provided that:                                           
   a) A tractor with a blade or other equipment capable of constructing fireline is on or adjacent to the active landing or within ¼ mile of the operating equipment. This piece of equipment shall have effective communication with the Hot Saw or Masticator.  
   b) Any additional restrictions specified by the Forest.                                                       
3. All other conventional Mechanical Operations are permitted until 1:00 PM.                                    
4. Some operations may be permitted after 1:00 PM, on a case-by-case basis, under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are:    
   • Rubber Tire Skidding                                           
   • Chipping on Landings                                          
   • Helicopter Yarding                                            
   • Fire Salvage                                                  

When approved by a Line Officer, a Variance Agreement can be implemented when the criteria specified in the agreement are met and mitigation measures are in place. This approval is good for ten (10) days unless cancelled sooner or extended by the Contracting Officer for an additional ten (10) days. Variance approval can be withdrawn at the sole discretion of the Forest Service. Variance approval is contingent on the 7-day fire weather forecast, fuel conditions, site characteristics, current fire situation, state of Contractor’s equipment for prevention and suppression readiness, type of operation and social and community considerations etc. (See attached Project Activity Level Variance Agreement).
This Project utilizes “The Project Activity Level” (PAL), an industrial operation’s fire precaution system. The following Climatology Chart indicates the Historic Activity Levels for the Project Fire Danger Rating Area or Fire Weather Station utilized on this Project. This is only a historical average of the Activity Levels for the identified Fire Danger Rating Area or Weather Station.

**Project Activity Level Climatology**

<table>
<thead>
<tr>
<th>Fire Danger Rating Area/Weather Station</th>
<th>Dinkey Creek Work Center</th>
<th>Years Analyzed 2015</th>
<th>Historic Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Month</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>1</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>August</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>September</td>
<td>2</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>October</td>
<td>5</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>
## Region 5 Project Activity Level (PAL) Ev Variance Application/Agreement

Project Name: __________________________________________
Contract Number: _______________________________________
Contractor Name: _______________________________________
Request # __, for period: __________________________________
Units/Subdivisions Affected: _______________________________

<table>
<thead>
<tr>
<th>Location of operation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope</td>
</tr>
<tr>
<td>Aspect</td>
</tr>
<tr>
<td>Elevation</td>
</tr>
<tr>
<td>Fuels on site</td>
</tr>
<tr>
<td>Fuels in surrounding area</td>
</tr>
<tr>
<td>7 Day PAL Outlook</td>
</tr>
<tr>
<td>Short range predictions (Red Flags)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel Moistures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response time of suppression resources</td>
</tr>
<tr>
<td>Potential for ignition</td>
</tr>
<tr>
<td>RAWS location</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Fire Situation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw down information</td>
</tr>
<tr>
<td>National Readiness Level</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contractual considerations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Operating Season</td>
</tr>
<tr>
<td>Frequency of recent contract fires in area</td>
</tr>
<tr>
<td>Type of operation</td>
</tr>
<tr>
<td>Contractors past/current performance &amp; equipment readiness</td>
</tr>
<tr>
<td>Other site-specific mitigation or precaution (i.e. Contractors proposals)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social &amp; Community Considerations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity of high value resources</td>
</tr>
<tr>
<td>Sensitivity of location</td>
</tr>
</tbody>
</table>
### Proposed Actions:

<table>
<thead>
<tr>
<th>Description of Mitigation Measures:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire Management Officer Concurrence</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Officer Approval</td>
<td>Date</td>
</tr>
</tbody>
</table>

I have considered the above request and determined the specified mitigation measures or actions must be implemented to continue operations in Project Activity Level Ev. Unless extended, the approval remains in effect for ten (10) calendar days unless cancelled sooner or extended by the Forest Service for an additional ten (10) days. At the sole discretion of the Forest Service, this variance can be modified and/or cancelled at no cost to the government.

<table>
<thead>
<tr>
<th>Contracting Officer</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor Representative</td>
<td>Date</td>
</tr>
</tbody>
</table>