Granite Basin Forest Health Improvement Project
Statement of Work and Request for Proposals
Prescott, National Forest - Arizona

Background and Statement of Work: The Granite Basin Recreation Area on the Prescott National Forest provides a variety of year-round recreational activities for visitors including hiking, backpacking, horseback riding, non-motorized boating, fishing, rock climbing, camping, and picnicking. Like much of the west, past management practices and fire exclusion have altered the forest structure, function, and natural processes on this site, resulting in increased fuel loading and undesirable tree encroachment into important riparian ecosystems. Current conditions pose an elevated risk of unnaturally high severity wildfire and threaten the sustainability and ecological integrity of the riparian systems.

Watershed conditions on the Prescott National Forest (PNF) have been degraded and altered over the last century as a result of natural and anthropogenic causes. This has enabled high fuel loadings and severe fire risks which are well outside of historic conditions and pose a significant threat to the watersheds that feed the Verde River. The USDA Forest Service has the mission “to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” Restoration is critical to reduce fuel loading across the Forest and allow for the reintroduction of low-intensity, beneficial fire to the landscape to maintain healthy watersheds and reduce the risk of catastrophic wildfire behavior. The objective of Phase 1 is to treat and monitor hazardous fuels to improve priority landscapes within the Prescott National Forest.

The National Forest Foundation and the Prescott National Forest have partnered to advance the USDA Forest Service mission to “sustain the health, diversity, and productivity of the Nation’s forests and Grasslands to meet the needs of present and future generations,” through implementation of the Granite Basin Forest Health Project removing unnaturally dense vegetation contributing to wildfire risk and riparian degradation.

Information Requested: If interested in this project, please provide a bid for the above statement of work by providing approach, work experience, and cost. Please also include your capacity for this project and efficiency in hand thinning and mastication projects in the past, if any.

This is a request for proposals only and quotations 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 quotation or to contract for supplies or services.

General Specifications
(a) Description of Work – This Request for Proposals is for restoration services related to hand felling and/or mastication on 445 acres across 13 cutting units. Twelve treatment units are located northwest of Prescott within the Granite Basin Recreation area while the separate 168.3-acre Unit 13 is located on Spruce Mountain approximately 6 miles southeast of Prescott.
Units 1-12 consist largely of ponderosa pine, juniper, evergreen oak and other woody brush species. Unit 13 contains additional dry-mixed conifer species including Douglas and white fir. Cutting shall follow diameter limits and/or spacing guidelines as generally described below and specifically detailed in Appendix B. Detailed Info Sheet and appendices:

1. All Units: Thin all ponderosa pines less than <9” DBH, Juniper <6” DBH and evergreen oak <5” DBH; Unit 13: Thin all Douglas fir <9” DBH and white fir <9” DBH

2. All Units: All species shall be thinned to an average spacing of 20’x20’ such that trees under the diameter limit shall only be retained only in open areas.

3. Units 1 - 12: Cut all brush species, including shrub form evergreen oak, Manzanita, Mountain Mahogany and Ceanothus.

4. All Units: Live and dead trees will be felled. Cut material will be piled. Cut dead trees up to diameter limits for each species.

5. Unit 2: Trees will be cut inside of a designated 3.2 acre archaeological site. Archeological site boundaries are designated with white flagging. There will be no piling of material cut within archaeological sites. Material will be cut and piled outside of archaeological site. Carry material, do not drag.

6. All Units: Seasonal Restriction is imposed to avoid creating favorable conditions for Ips bark beetles. No activity March 1 - September 30.

7. All Units: Pile all activity slash. Minimum pile size shall be 6’ high and 6’ in diameter. A 6-foot height for piles is a minimum and will be checked. Hand piles shall be constructed in openings or outside of the dripline of residual standing trees where possible and shall not be constructed within 25’ of the trunk of all large evergreen and gambel oaks >10” DBH. Piles should be constructed with a mix of heavy and fine fuels, with fine fuels placed towards the center to stay dry. Piles should not be placed on existing dead and down material if possible. If it is necessary to pile on existing dead and down, this downed material should be bucked and piled for a distance of 5 feet around piles to minimize fire spread. Do not pile material on top of live plants such as shrubs, cut live material first then pile on top.

8. All Units: No piles shall be constructed within 66’ of Forest Improvements (buildings, communication towers, propane tanks, etc.), 30’ of private property lines, 20’ of a system road or system trail, 10’ of a fences, land survey monument, or culvert. In addition, no piles shall be constructed within 50’ of Forest boundaries when residential structures are located adjacent to Forest boundary. In Unit 11 there are high risk residential structures, in these units pile slash 66 ft away from structures and propane gas tanks, do not pile in the center of the camp, this will be checked.

9. All Units: Within 100 ft of roads and within 100ft of private property, leave larger oak and juniper logs >4-inch diameter out of piles for fuelwood collection.

10. No piles shall be constructed within 25’ of stream channel in protected streamside management zones nor within 66’ of power lines.

11. All Units: Within 100 ft of roads and within 100ft of private property, leave larger oak and juniper logs >4-inch diameter out of piles for fuelwood collection.

The Contractor shall identify which efforts and materials 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**– Units 1-12 are located within the Granite Basin Recreation Area approximately 9 miles northwest of Prescott, AZ off Iron Springs Road. Unit 13 is located on Spruce Mountain and accessed from S. Senator Hwy approximately 6 miles southeast of Prescott, AZ. See maps in Appendix A.

(c) **Work Schedule** – Work may begin no earlier than October 1, 2021, upon agreement signature, receipt and approval of the contractor’s operating plan and completion of a pre-work conference.

Cutting shall NOT be conducted between March 1 and September 30 to reduce the risk of Ips bark beetle outbreaks. Cutting must be completed by March 1st, however piling may continue after the March 1st deadline.

Work shall be completed in full no later than April 1, 2022.

### Pricing Schedule

Contactor shall price work according to the schedule below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1, 3, 5, 6, 7, 8, 10, 12</td>
<td>Acre</td>
<td></td>
<td>197.9</td>
<td></td>
</tr>
<tr>
<td><strong>Hand Thinning or Mastication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(please indicate proposed method)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit 2, 4, 9 &amp; 11</td>
<td>Acre</td>
<td></td>
<td>77.7</td>
<td></td>
</tr>
<tr>
<td><strong>Hand Thin Only</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit 13</td>
<td>Acre</td>
<td></td>
<td>169.3</td>
<td></td>
</tr>
<tr>
<td><strong>Hand Thinning or Mastication</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(please indicate proposed method)</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>444.9</td>
<td></td>
</tr>
</tbody>
</table>

*See Appendices A & B for unit specific acreages, locations and prescriptive details.*

### Other Project Requirements and Specifications

(a) **Utilities** – Sanitation, water, electrical or housing services are limited. Camping is available onsite with limited amenities (Click [HERE](#) for site information). Full services are available six miles away in Prescott, AZ. The Contractor shall make its own arrangements for temporary facilities if needed.

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

- Treatment shall follow the general specifications and details provided in Appendix B. Detailed Cutting Guide.
- Contractors shall adhere to Equipment Specifications and Prescott NF fire plan as described in Appendix C.
- Contractors shall construct follow tree selection guidelines and slash piles specifications as detailed in the Prescription Photo Guide in Appendix D.
• All other applicable local, state and/or federal regulation, policy and best management practices shall be followed.

Contractor Qualifications

(a) References – Please provide three references familiar with your hand thinning and/or mastication work.

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

Insurance Requirements

Upon selection of the winning bid, 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.

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 $50,000 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.

Pre-Bid Site Visit

A site visit for interested bidders is scheduled to occur on Friday September 10, 2021 at 09:30 AM (weather and conditions permitting). We will meet at the Metate Trailhead parking lot within the Granite Basin Recreation Area. Click HERE for Google Map directions. If you plan to attend the site visit, please contact Mark Brehl by phone or email (928-853-7578 or mbrehl@nationalforests.org) to RSVP and confirm your attendance.

Bid Submission

Submit bids via email to Mark Brehl (mbrehl@nationalforests.org) by COB September 17, 2021.

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 24 and will prepare a separate contract document.
**Point of Contact**
For questions about the details of producing the bid, please contact:

Mark Brehl  
National Forest Foundation – Arizona Program Forestry Supervisor  
928.853.7578  
mbrehl@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>
<td>• Past performance, references, and USFS feedback</td>
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</tr>
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</table>

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**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. PROJECT AREA MAPS
North Units 1-12
Prescott National Forest
National Forest Foundation
Bradshaw Forest Health Impr. Project
Phase I
Southern Units - 2.06.2021

Unit Summary

<table>
<thead>
<tr>
<th>Mastication/HT</th>
<th>Hand Thin Only</th>
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</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>48.8 ac</td>
</tr>
<tr>
<td>Unit 3</td>
<td>13.8 ac</td>
</tr>
<tr>
<td>Unit 5</td>
<td>18.1 ac</td>
</tr>
<tr>
<td>Unit 6</td>
<td>17.5 ac</td>
</tr>
<tr>
<td>Unit 7</td>
<td>38.2 ac</td>
</tr>
<tr>
<td>Unit 8</td>
<td>10.5 ac</td>
</tr>
<tr>
<td>Unit 10</td>
<td>47.1 ac</td>
</tr>
<tr>
<td>Unit 12</td>
<td>3.9 ac</td>
</tr>
<tr>
<td>Unit 13</td>
<td>169.3 ac</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>444.9 ac</strong></td>
</tr>
</tbody>
</table>

Legend

- **Green**: Mastication or Hand Thin
- **Orange**: Hand Thin Only
- **Gray**: Private Property
- **Black**: Main Roads
- **Gray**: Utility Line
- **Brown**: Trails

Scale: 1:12,000

B.Roe 02.06.2021
<table>
<thead>
<tr>
<th>Unit</th>
<th>Acres</th>
<th>% Slope</th>
<th>Method</th>
<th>Seasonal Restriction</th>
<th>Cutting Specs</th>
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<tbody>
<tr>
<td>1</td>
<td>48.8</td>
<td>0-20%</td>
<td>Mast/HT</td>
<td>March 1 - Sept 31</td>
<td>Thin all ponderosa pines &lt;9&quot; DBH, Juniper &lt;6&quot; DBH and evergreen oak &lt;5&quot; DBH. All species shall be thinned to an average spacing of 20'x20' such that trees under the diameter limit shall only be retained in open areas. <strong>Cut all brush species</strong>, including shrub form evergreen oak, Manzanita, Mountain Mahogany and Ceanothus. Do not cut Gambel Oak, Arizona Walnut, Riparian Species, or trees with grape vines. See Notes.</td>
</tr>
<tr>
<td>2</td>
<td>9.3</td>
<td>0-20%</td>
<td>HT Only</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
</tr>
<tr>
<td>3</td>
<td>13.8</td>
<td>0-20%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
</tr>
<tr>
<td>4</td>
<td>14.8</td>
<td>0-60%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
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<td>5</td>
<td>18.1</td>
<td>0-20%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
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<td>6</td>
<td>17.5</td>
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<td>Mast/HT</td>
<td>3/1 to 9/31</td>
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<td>7</td>
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<td>8</td>
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<tr>
<td>9</td>
<td>20.2</td>
<td>0-20%</td>
<td>HT Only</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
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<tr>
<td>10</td>
<td>47.1</td>
<td>0-20%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
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<tr>
<td>11</td>
<td>33.4</td>
<td>0-40%</td>
<td>HT Only</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
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<td>12</td>
<td>3.9</td>
<td>0-20%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
<td>Same as Unit 1 cutting specs.</td>
</tr>
<tr>
<td>13</td>
<td>169.3</td>
<td>0-40%</td>
<td>Mast/HT</td>
<td>3/1 to 9/31</td>
<td>Thin all ponderosa pines &lt;9&quot; DBH, <strong>Douglas-fir</strong> &lt;9&quot; DBH, and <strong>white fir</strong> &lt;9&quot; DBH, Juniper &lt;6&quot; DBH and evergreen oak &lt;5&quot; DBH. All species shall be thinned to an average spacing of 20'x20' such that trees under the diameter limit shall only be retained in open areas. <strong>Do not cut brush</strong>. Cut all dead ponderosa, juniper and evergreen oaks up to diameter limit. Do not cut Gambel Oak, Arizona Walnut, Riparian Species, or trees with grape vines. See Notes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Total</strong> 444.9</td>
</tr>
</tbody>
</table>

**Notes**

1. **All Units**: Thin all ponderosa pines less than <9" DBH, Juniper <6" DBH and evergreen oak <5" DBH

2. **Unit 13**: Thin all Douglas fir <9" DBH and white fir <9" DBH

3. **All Units**: All species shall be thinned to an average spacing of 20'x20' such that trees under the diameter limit shall only be retained only in open areas.

4. **All Units**: If mistletoe present, cut all Ponderosa Pine <9" with mistletoe infection. Cut all suppressed ("Lollypop") ponderosa pines <9" (See Photo Guide).
5 All Units: Do not cut Gambel oak, pinyon pines, Arizona walnut, Riparian Species or trees with grapevines on them.

6 Units 1 - 12: Cut all brush species, including shrub form evergreen oak, Manzanita, Mountain Mahogany and Ceanothus.

7 All Units: Spacing may be altered by ± 25% to select trees with the most desirable characteristics.

8 All Units: Do Not Prune Junipers or Evergreen Oaks. For forked Junipers and Oaks, if largest stem is above diameter limit (>6” DBH for Juniper, >5” for Evergreen Oaks) do not prune smaller stems which share the same stump. Smaller stems which are on separate stumps can be thinned. (See Photo Guide).

9 All Units: Live and dead trees will be felled. Cut material will be piled. Cut dead trees up to diameter limits for each species.

10 All Units: Unit boundaries are designated with blue flagging. For units bordering roads, the road edge is the boundary.

11 Unit 2: Trees will be cut inside of a designated 3.2 acre archaeological site. Archeological site boundaries are designated with white flagging. There will be no piling of material cut within archaeological sites. Material will be cut, and piled outside of archaeological site. Carry material, do not drag.

12 All Units: Seasonal Restriction is imposed to avoid creating favorable conditions for Ips bark beetles. No activity March 1 - September 30.

13 All Units: Leave tree species preference from highest to lowest includes: Riparian species (walnut, ash, cottonwood, boxelder, etc.), gambel oak, evergreen oaks, healthy & mistletoe free ponderosa pine, alligator juniper, Douglas-fir, white fir, and lastly suppressed (lollypop) ponderosa pine. (See Photo Guide)

14 All Units: Pile all activity slash. Minimum pile size shall be 6’ high and 6’ in diameter. A 6 foot height for piles is a minimum and will be checked. Hand piles shall be constructed in openings or outside of the dripline of residual standing trees where possible, and shall not be constructed within 25' of the trunk of all large evergreen and gambel oaks >10” DBH. Piles should be constructed with a mix of heavy and finefuels, with fine fuels placed towards the center to stay dry. Piles should not be placed on existing dead and down material if possible. If it is neccesary to pile on existing dead and down, this downed material should be bucked and piled for a distance of 5 feet around piles to minimize fire spread. Do not pile material on top of live plants such as shrubs, cut live material first then pile on top.

15 All Units: No piles shall be constructed within 66’ of Forest Improvements (buildings, communication towers, propane tanks, etc.), 30’ of private property lines, 20’ of a system road or system trail, 10’ of a fence, land survey monument, or culvert. In addition, no piles shall be constructed within 50’ of the Forest boundary when residential structures are located adjacent to Forest boundary. In Unit 11 there are high risk residential structures, in these units pile slash 66 ft away from structures and propane gas tanks, do not pile in the center of the camp, this will be checked.

16 All Units: Within 100 ft of roads and within 100ft of private property, leave larger oak and juniper logs >4 inch diameter out of piles for fuelwood collection.
All Units: Within protected streamside management zones, no piles will be constructed within 25' of stream channel.

All Units: No piles shall be constructed within 66' of powerlines and utility lines.

Units 1, 3, 5, 6, 7, 8, 10, 12, 13: These units may be masticated or hand thinned. All mulched material shall have a bed depth of 8" or less. Residual stump/stem height shall not exceed 8" from the ground or 4" above natural obstacles. The machine may be tracked or tired and operations must cease if soil disturbance exceeds 2 inches in depth or if rain exceeds 1 inch in 24 hours. Equipment may reach into SMZs but may not drive within 25 ft of high water mark. Stream crossings may only occur at agreed locations only. A weed wash and inspection must be conducted before the equipment enters the forest. Fire plans must be submitted and in compliance with the PNF industrial fire precautions plan.

### Unit Specific Info

<table>
<thead>
<tr>
<th>Unit</th>
<th>Acres</th>
<th>Fuelwood</th>
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</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>49</td>
<td>Within 100 ft of Granite Basin Rd, &amp; cabin access rd leave oak and juniper logs &gt;4in out of piles for fuelwood collection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel.</td>
</tr>
</tbody>
</table>

| Unit 2 | 9 | Hand Thin Only |
| | | Archaeological site: Unit contains a 3.2-acre archaeological site which will be thinned. Thinned material will be carried and piled outside of site. Slash will not be piled inside of archaeological site. |
| | | Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

| Unit 3 | 14 | Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

| Unit 4 | 15 | Hand Thin Only |
| | | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel. |

| Unit 5 | 18 | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel. |
| | | Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

| Unit 6 | 18 | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel. |
| | | Fuelwood: Within 100 ft of Granite Basin Road and Cayuse Rd, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

| Unit 7 | 38 | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel. |
| | | Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

| Unit 8 | 11 | Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |

<p>| Unit 9 | 20 | Hand Thin Only |
| | | Fuelwood: Within 100 ft of Granite Basin Road and Yavapai Rd, leave larger oak and juniper logs &gt;4in out of piles for fuelwood collection. |</p>
<table>
<thead>
<tr>
<th>Unit</th>
<th>Acres</th>
<th>SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>47</td>
<td>Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs &gt;4in out of piles for fuelwood collection.</td>
</tr>
</tbody>
</table>
| 11    | 33    | Hand Thin Only  
Structures - Piling: In Unit 11 there are high risk structures. Pile slash 66 ft away from structures and propane gas tanks  
SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel.  
Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |
| 12    | 4     | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel.  
Fuelwood: Within 100 ft of Granite Basin Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection. |
| 13    | 169   | SMZ: Unit contains a streamside management zone. No piles will be constructed within 25' of stream channel.  
Fuelwood: Within 100 ft of Spruce Mountain Road, leave larger oak and juniper logs >4in out of piles for fuelwood collection.  
No Brush: No brush will be cut in Unit 10. |

*Specifications, silvicultural prescription, and monitoring methods for thinning will be included in contract.*
APPENDIX C. EQUIPMENT AND SERVICES

Equipment Requirements:

Chainsaws
The Contractor shall provide dependable, safe equipment and protective gear that meets all applicable state and federal laws and regulations relating to motor vehicles and equipment. The Government reserves the right to conduct inspections at any time.

Any fueling or refueling of a chainsaw shall only be done in an area which has first been cleared or is free of all material capable of carrying fire; chainsaw shall be moved at least 10 feet from place of fueling before starting.

Spark Arrestors
The NFF/third-party contractor shall not operate any internal combustion engine on any timber, brush or grass covered land, including trails or roads without a spark arrestor maintained in effective working order and meeting the guidelines set forth in the National Wildfire Coordinating Group Publication NFES 1363 and 2363.

Personal Protective Equipment
Personal protective equipment for eyes, face, head, and extremities shall be provided, used, and maintained in a sanitary and reliable condition. The Contractor shall provide to each employee who operates a chain saw, chain saw chaps and assure the chaps are worn during saw operations. These chaps must be approved by Underwriters Laboratory or meet Forest Service specification 6170-47. The chaps shall cover the full length of the thigh to the top of the boot on each leg.

Work may be suspended or modified when the Prescott National Forest personnel identifies conditions that represent an unacceptably high fire risk, such as very dry fuels, high winds, increased incidence of wildfires, erratic fire behavior, or Red Flag conditions.

Equipment Requirements: Mastication
Mastication will be accomplished with a machine which shall meet the following requirements:
1. The machine may be tracked or rubber tired.
2. Ground pressure shall not exceed a maximum of 12 psi.
3. Machine shall be equipped with a masticating or mulching head.

All slash and other vegetative debris shall meet the following specifications:
1. No vegetative slash or debris shall be more than 8 inches deep as measured from the ground level.
2. Stumps should be at the lowest level possible not exceeding 4” in height or 4” above natural obstacles.
3. No individual pieces of slash or vegetative debris shall be greater than 4 feet in length.
4. All boles or pieces up to 10 inches in diameter shall be masticated.
5. No masticated or cut material shall lean against or be suspended by a leave tree.
6. Areas within the project boundary that cannot be masticated due to terrain or streamside management zone limitations will be cut with chainsaws and either piled or lopped and scattered.
7. All cut vegetation shall be kept within unit boundaries. Any cut vegetation falling into ditches, roads, road banks, trails or adjacent units shall immediately be removed.
8. Specified brush, saplings or seedlings within the work areas shall be masticated to within 2' of leave trees without damage to the leave trees.

**Fueling**

Fueling equipment will be inspected and approved prior to contract startup. Joint inspections will include checking for evidence of oil/fuel leaks of all piping, oil/fuel lines, hydraulic lines, and seals, fill tanks, and other sources of leaks. All evidence of leaks will be investigated and repaired prior to equipment operation on the job site. All non-manual fueling equipment will have an automatic shut off switch installed to avoid accidental fuel releases.

All appropriate preventative measures shall be taken to ensure any spill of such oil or oil products does not enter any stream or other waterway of the United States or any of the individual States.

Individual fuel tanks greater than 50l gallons may only be used within a spill containment pit. The spill containment pit shall be constructed at a site designated by the NFF representative. The pit shall be lined with an approved impermeable liner and shall be capable of containing a released volume of 1.5 times the tank volume.

If the total oil or oil products storage exceeds 1,320 gallons in containers of 55 gallons or greater, a Spill Prevention Control and Countermeasures Plan shall be prepared. Such plan shall meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer.

The NFF and USDA FS representatives shall be notified 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 Contractor's employees or agents, contractors, Subcontractors, or their employees or agents, directly or indirectly, as a result of Contractor's Operations. Contractor will take whatever initial action may be safely accomplished to contain all spills.

**Hazardous Materials**

Compliance with all applicable State and Federal regulations pertaining to the handling and disposal of hazardous materials. Disposal of hazardous materials is not permitted on site or on federal land. Failure to meet this condition can result in the NFF/third-party contractor being Liable for the cost of reclamation, including clean up and disposal of contaminated soil.

Minor, incidental leaks from fittings, seals or ruptured hoses will not subject the NFF/third-party contractor to remedial requirements; however, continued leaks will require repair to eliminate/minimize the impact of hazardous materials. Maintenance and repairs that require the draining of lubricants or other fluids may be conducted on site only if the fluids are captured, containerized, and removed from public lands for proper disposal.

Contractor will submit a spill plan prior to startup of operations detailing how spills will be avoided and procedures that will be followed if a spill occurs.

**Resource Protection**

For any utility lines present in the project area, including both communications and power lines, the contractor shall take steps to avoid felling of trees across utility lines. In addition, no piles shall be constructed within 66 feet of any utility lines.
Cadastral survey markers (brass caps), benchmarks, project markers, and other markers and stakes are required to be protected from damage or removal. In the case of destruction or removal, NFF is responsible for replacing the markers.

No natural or man-made features that may be of a historic or prehistoric value will be disturbed. The NFF/third-party contractor will notify the Prescott National Forest when a suspected feature is discovered and will avoid the feature(s) until cleared by the Prescott National Forest personnel. Known areas requiring protection and avoidance will be identified on the ground and on the unit map. The nature of the identification will be noted on the unit map.

The NFF/third-party contractor shall operate machinery only on Forest Service administered Lands. Privately owned lands near the perimeter of the treatment unit will be identified on the ground and the unit map provided at time of service. The nature of the identification will be noted on the unit map.

Avoid mastication in riparian drainages which are designated on the map. Leave a 25 foot buffer from the high water mark. Equipment may reach into SMZs but may not drive within 25 ft of high water mark. Areas within the project boundary that cannot be masticated due to terrain or riparian areas will be cut and piled or lopped and scattered. Stream crossings may only occur at designated locations agreed to in advance.

Work stoppage may also be required as a result of weather events in order to protect natural resources. These events include but are not limited to high risk of wild fire and wet conditions causing severe soil rutting from heavy equipment. The machine may be tracked or tired and operations must cease if soil disturbance exceeds 2 inches in depth or if rain exceeds 1 inch in 24 hours.

A weed wash is required for all heavy equipment used on the project. The contractor must wash equipment and remove all dirt and debris prior to entering the forest and inspection must be conducted before the equipment enters the forest.

Fire plans must be submitted to NFF and in compliance with the PNF industrial fire precautions plan

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer or their designee.

Spark Arrestors

The NFF/third-party contractor shall not operate any internal combustion engine on any timber, brush or grass covered land, including trails or roads without a spark arrester maintained in effective working order and meeting the guidelines set forth in the National Wildfire Coordinating Group Publication NFES L 363 and 2363.
Fire Precautions

When operating on National Forest Lands, it is incumbent on the permitted user to know the current Industrial Fire Precaution Plan and to take the appropriate actions to meet the mitigation measures in these guidelines.

Work may be suspended or modified when the Prescott National Forest personnel identifies conditions that represent an unacceptably high fire risk, such as very dry fuels, high winds, increased incidence of wildfires, erratic fire behavior, or Red Flag conditions. Work may be suspended by PNF personnel through an oral suspension followed up by written notice to the contractor and NFF. The contractor will be required to self-suspend operations based on Red Flag conditions and must follow fire restriction stages as outlined in their submitted fire plan.

PRESCOTT NATIONAL FOREST
SPECIFIC FIRE PRECAUTIONARY MEASURES
EMERGENCY FIRE PRECAUTION SCHEDULE

<table>
<thead>
<tr>
<th>FIRE RESTRICTION/CLOSURE “STAGE”</th>
<th>INDUSTRIAL FIRE PRECAUTION PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>“STAGED” RESTRICTION LEVELS</td>
<td>A</td>
</tr>
<tr>
<td>NO RESTRICTIONS</td>
<td>B</td>
</tr>
<tr>
<td>STAGE I</td>
<td>C</td>
</tr>
<tr>
<td>STAGE II</td>
<td>D</td>
</tr>
<tr>
<td>PARTIAL/FOREST CLOSURE **</td>
<td>D</td>
</tr>
<tr>
<td>RED FLAG WARNING</td>
<td>D</td>
</tr>
</tbody>
</table>

**Partial Forest Closure:

Project areas which are outside the boundaries of the partial forest closure may continue to operate under Industrial Fire Precaution Plan “C” operating criteria as agreed upon between the Permit Administrator and Purchaser in writing.

Project areas within the boundaries of the proclaimed partial forest closure area are to operate under Industrial Fire Precaution Plan “D”.

Staged restriction levels are determined by the appropriate Forest Line Officer in consultation with the Forest Fire Management Officer and Permit Administrator. The appropriate Forest Line Officer may adjust the predicted Industrial Fire Precaution Plan for local weather conditions within a Project Area. Changes in the predicted Industrial Fire Precaution Plan shall be agreed to in writing.

INDUSTRIAL FIRE PRECAUTION PLAN – DESCRIPTION

Authorized user will restrict operations in accordance with the attached Emergency Fire Precaution Schedule:

A - Normal Fire Precautions - No fire guard required except for welding and blasting operations.

B - Normal Fire Precautions – Authorized user will provide fire guard.

C - All power equipment use as well as blasting and welding operations will shut down from 9:00 am until 8:00 pm Mountain Standard Time (10:00 am to 9:00 pm MDT). Operations on mineral soil involving activities such as road excavation, watering, grading, surfacing, rock crushing, and/or other equipment maintenance may continue. Authorized user will provide fire guard.
D - Shutdown all operations; except operations on mineral soil involving road excavation, watering, grading, gravel surfacing, and rock crushing may continue with special Forest Service permit. Blasting and welding are prohibited. Authorized user will provide fire guard.

**FIRE GUARDS**

To prevent, detect, and suppress wildland fire, authorized users shall provide a fire guard at each operating area where power-driven equipment and tools have been operated during the day. The fire guards shall constantly perform their duties during operating hours and for three (3) hours after the work stops for the day, when the Fire Precaution Plan is Plan “B”, “C”, or “D”. The *fire guard may perform contract work in conjunction with fire guard duties.*

A fire guard on one operating area shall satisfy the requirements on adjacent areas if the travel time with available transportation is not in excess of ten (10) minutes to any of the other areas requiring such service and provided the fire guard patrols all area where authorized user’s activities occurred.

Each fire guard shall be vigilant, able and prepared to actions to prevent, detect, and report any wildland fires and to promptly and efficiently take suppression action with available required firefighting equipment and personnel on any wildland fire that starts on project area. Each fire guard shall be equipped with a vehicle and a fire tool cache consisting of a cache box with a complement of fire tools maintained in serviceable condition equal to the total number of personnel engaged in the user’s operations. Approved firefighting tools may include the following: Pulaski; McLeod; long handles round pointed shovel. The fire guard will also carry at least 25 gallons of water for firefighting purposes.

**WEATHER WARNINGS, WATCHES, AND ADVISORIES**

During periods of critical fire weather conditions the National Weather Service may issue fire weather watches or red flag warnings to highlight combinations of sustained high winds, low relative humidity, high temperatures and dry fuels that could result in significant fire behavior in the event of an ignition. The thresholds for Red Flag Events are established by the local National Weather Service office. Red Flag Events are categorized in the following order:

- **FIRE WEATHER WATCH** is issued to alert the possibility of the development of conditions that would lead to a Red Flag Warning.

- **RED FLAG WARNING** is issued to warn of a predicted, impending or ongoing combination of weather factors that support an increased probability of ignition and rapid fire growth.

When a Red Flag Warning is issued by the National Weather Service, all authorized user operations will adhere to Industrial Fire Precaution Plan “D” and will shut down operations until the Red Flag Warning is rescinded. It is the daily responsibility of the Vendor to be aware of fire weather watches or red flag warnings in the area they are working.
APPENDIX D: Prescription Photo Guide

Pruning: Do Not Prune Junipers or Evergreen Oaks. For forked Junipers and Oaks, if largest stem is above diameter limit (>6" DBH for Juniper, >5" for Evergreen Oaks) do not prune smaller stems which share the same stump. Smaller stems which are on separate stumps should be thinned.
Leave Tree Selection

All Units: Leave tree species preference from highest to lowest includes: Riparian species (ash, cottonwood, boxelder, etc.), gambel oak, evergreen oaks, **healthy & mistletoe free** ponderosa pine, Douglas fir, white fir, alligator juniper, and lastly suppressed (lollipop) ponderosa pine.

**All Units:** If mistletoe present, cut all Ponderosa Pine <9" which have mistletoe infection. Cut all suppressed (Lollipop) ponderosa pines (See Definitions Sheet).

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**Healthy Ponderosa Pine:**

Look for:
- Straight stem
- No Mistletoe
- Good live crown ratio:
  - Large portion of crown has live branches
- Good coloration
- Free of damage

This is a desirable tree

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**Suppressed “Lollipop” Pine**

- Has poor live crown ratio
  - Less than 20%
- Bole may be very curved
- Dead or broken tops
- Yellow or dull coloration
- Insect/Disease/Mechanical Damage

**CUT these trees!**
PLANT SPECIES: DO NOT CUT

Arizona Walnut
Do NOT Cut

Arizona Grape
Do NOT Cut

Bear Grass
Do NOT Cut

Arizona Grape
On a tree
Do NOT Cut
tree or vine

Do NOT Cut
Cactus, Yucca or Agave

Gambel Oak
Do NOT Cut
Bradshaw FHIP: Definitions of Terms and Abbreviations on the Detailed Information Sheet

**Activity Slash**: Debris from felled trees or brush (live and dead; boles, tops, and limbs) resulting from cutting activities conducted under current task order.

**Boundary**: Marked features to indicate the outer edge of a cutting unit.

**Buck**: To sever completely through tree boles to prescribed length.

**Cutting Unit**: Specific area of ground where work is to be performed within a larger project area.

**Desirable Leave Tree Characteristics (see also “Undesirable Leave Tree Characteristics”)**: Trees considered desirable as leave trees have most or all of the following characteristics:

(a) Straight stem (leaning <15 degrees from vertical axis)
(b) Well-formed crown (wide, full, symmetrical; >40% live crown ratio)
(c) Live, single top with vigorous annual terminal growth (generally >6”)
(d) Good coloration (foliage green during growing season)
(e) Free of animal, insect or disease damage and/or symptoms
(f) Absence of physical or mechanical damage

**Diameter at Breast Height (DBH)**: Bole diameter measured at 4½ feet above ground level (uphill side of the tree) or at the smallest point below 4½ feet above ground level for trees with forks, branches, swell, or other deformities at breast height

**Dripline**: Vertical extent of a tree crown’s edge to the ground.

**Forest Canopy Opening**: Area of ground outside of the any tree’s dripline with no tree canopy above.

**Forest Road (FR)**: Travel route on Forest Service land that may be open to highway legal vehicles, open to all vehicles, or closed as indicated on Forest Service official Motor Vehicle Use Map (MVUM) or maps provided in the awarded task order.

**Horizontal**: Less than 30° slope (as it pertains to the cut surface of a stump)

**Improvement**: Manmade feature such as a road, trail, power line, fence, structure, land survey monument, etc.

**Land Survey Monument**: Stamped metal cap attached to a metal pipe; generally found along property lines and section corners.

**Live Crown Ratio**: Ratio of crown length (portion of tree with live branches) to total tree height (expressed as a percentage).

**Lop and Scatter**: Logging slash or debris is cut and scattered to reduce slash concentrations. Slash being generally left within 18 inches of the ground. Slash is scattered into openings away from and without unnecessary damage to residual trees.

**Opening**: See Forest Canopy Opening.

**Private Property**: Ownership designation where property rights are controlled private citizen(s).

**Pullback (or “Pull Back”)**: Pulling slash away from improvements and other fire-sensitive features according to the contract requirements specified in the task order “Detailed Information Sheet;” includes scattering of pulled back slash to meet slash height requirements.
Regeneration: Seedlings or saplings that develop or are present in the understory, generally less than 6in in diameter at breast height.

Residual Trees: Trees left standing in the unit which are not cut as part of the treatments.

Road Edge: The edge of a road is defined as the outer edge of the road ditch. For roads unaccompanied by a ditch, the edge of the road is defined as the edge of the pavement (along paved roads) or the line of relatively continuous vegetation, needle or leaf litter, or other undisturbed natural surface (along dirt roads).

Satisfactory Cut Tree: Trees cut that should have been cut according to contract specifications.

Satisfactory Leave Tree: Trees left that should have been left according to contract specifications.

Slash: Debris from tree or brush material resulting from, but not limited to, logging, thinning, natural or unnatural events, and/or fire.

Spacing (Tree): Horizontal distance from the bole of one leave tree to the bole of the next nearest leave tree. The average distance in feet between leave trees will be defined in the Detailed Information Sheet. Unless otherwise specified in the Detailed Information Sheet, spacing may be varied by ±25 percent to ensure retention of the best trees. For example, a 20’ X 20’ spacing specification allows for a 5’ variation to retain the best tree. In this example, some trees may be spaced 15’ apart but the average spacing across the cutting unit shall still average 20’ (excluding areas where trees are absent). In this example, no trees shall be spaced <15’ apart.

Undesirable Leave Tree Characteristics: Trees considered undesirable as leave trees have one or more of the following characteristics:
(a) Leaning or bent (>15 degrees from vertical axis; often related to prolonged suppression)
(b) Crook or sweep in bole
(c) Poor crown form (one-sided, narrow, or sparse; <40% live crown ratio)
(d) Multiple, dead, or broken tops
(e) Poor annual terminal growth (generally <6”)
(f) Poor coloration (foliage turning gray or brown)
(g) Presence of insects, diseases, or animal damage
(h) Physical or mechanical damage

Unsatisfactory Cut Tree: Tree cut that should have been selected as a leave tree.

Unsatisfactory Leave Tree: Uncut tree that, according to specifications, should have been cut; includes trees not severed from the stump, hang-up trees (suspended more than 3 feet off the ground), and stumps with live limbs.