Appendix D Standard Operating Procedures

Fire/Air Quality

For all prescribed burning, comply with air quality permits issued by the Northern Sierra Air Quality Management District. A prescribed burn plan, including a mandatory smoke management plan (SMP), would be required prior to any prescribed fire. The SMP is reviewed and approved by the local air quality management District office.

Conduct prescribed burning in a manner that avoids excessive buildup of smoke in any particular airshed.

Other than in visual corridors, no more than 10% mortality following the underburn and no areas of mortality greater than 2 acre.

Watershed

Protect water quality through the use of BMPs, which are employed by the Forest Service and the State of California to prevent water quality degradation and to meet state water quality objectives relating to non-point sources of pollution. In addition, use site-specific mitigation measures that relate directly to these BMPs to minimize erosion and resultant sedimentation.

Apply the standards and guidelines identified in the SAT Guidelines (as adopted under the HFQLG EIS) relating to timber sale activities in all RHCAs. Activities in RHCAs will improve or maintain the structure and function of the RHCA and fish and wildlife habitat.

Streamside Areas

For intermittent and ephemeral streams showing scour and deposition, and wetlands less than one acre in size, use RHCA widths of a minimum of 100 feet in width (horizontal distance) or the height of one site potential tree, whichever is greater. For perennial fish-bearing streams, use RHCA widths of 300 feet horizontal distance as measured from both sides of the stream channel, or to the top of the inner gorge, or the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, whichever is greatest. Extend RHCAs around wetlands greater than one acre and perennial non fish-bearing streams to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or to the extent of moderately and highly unstable areas, or a 150’ horizontal distance, whichever is greatest.

Employ streamside management zone (SMZ) widths are 50’ for those stream segments that do not display scour and deposition and are not classified as RHCAs.

Exclude equipment from RHCA, except at equipment crossings and within hardwood treatment areas (See Hardwoods), unless specifically allowed for in the environmental document. Minimize the number of crossings. Crossings will be back-bladed after use, as necessary, to restore the natural relief and reduce erosion.

Remove any slash generated by project activities from stream courses as soon as practicable, not exceeding 48 hours.

Do not locate landings within RHCAs. Mulch and then subsoil landings and other disturbances within 200 feet of stream channels.

Remove no trees adjacent to channels that provide bank stability and/or contribute to channel integrity (except for hazard trees).

Drainages disrupted by existing and activity related landings, skid trails and temporary roads would be restored to their natural contour. This would occur during subsoiling operations.

Do not locate skid trails parallel to the bottom of swales. Treat swales as stream courses, crossing at right angles and skidding away from these features.

While underburning, do not ignite fire within 50' of stream channels or riparian vegetation, whichever is greatest. Allow backing fire to creep into RHCAs if fuels naturally carry this fire. Retain at least 90% of large woody debris in channels and leave 50-75% of the ground unburned within the interior 50' of RHCAs. Within these core areas, ensure that burned areas appear intermittent, not concentrated. Maintain a minimum of 75% ground cover over RHCA's and SMZs. Locate burn piles from or above the "green line" or at least 25' away from channels having evident scour and deposition, whichever is greater. Burn piles prior to under burning.

Retain 5 tons/acre of fuels less than 15" in diameter and 10-15 tons/acre of the largest down logs greater than 15" in diameter, where available.

Aspen

Aspen Stands with defined Stream Channels

No equipment within 25 feet of any stream course. Machinery can work adjacent and reach into the exclusion zone with the extendable boom. Skid trails will be perpendicular to the stream course within 50 feet of the stream and spacing of skids will be no closer than 120 feet. No trees will be removed that are providing stability to the streambank.

Along perennial fish-bearing streams where Aspen are not of sufficient size to provide shade to the stream channel conifers will be left to provide shade.

Aspen Stands with no definable stream channel

Aspen stands within wet areas where no definable stream channels are present will be harvested in dry periods when the upper eight inches of the soil is essentially dry or the ground is frozen to a depth of five inches or snow depth is at least 18 inches or is compacted by equipment to eight inches. For this measure soil is defined as "dry" when no portion can be molded by hand compression and hold that shape when the hand is tapped.

Soil Protection Measures

To control the surface erosion, the LRMP requires a minimum of 40% ground cover on soils with a low erosion hazard rating. The minimum ground cover increases to 50%, 60% and 70% for soils with an erosion hazard rating of moderate, high and very high, respectively.

Conduct ground based harvest operations only when the upper 8” of the soil is essentially dry, or the ground is frozen to a depth of 5”, or snow depth is at least 18” or is compacted by equipment to 8”. For this measure, soil is defined as “dry” when no portion of the top 8” can be molded by hand compression and hold that shape when the hand is tapped. Allow cut-to-length harvesters and forwarders to operate on moist soil, when the depth of the organic mat is greater than 18”.

Restrict skidding equipment to designated skid trails, unless, through consultation with the District’s physical scientist, it is determined that departure from skid trails would not likely impair the soil. Generally use skid trail spacing averaging 120’, center to center, when trails are parallel and generally perpendicular to the stream. Reusing existing skid trails, with spacing closer than prescribed, is acceptable.

Areas with compacted soil will be subsoiled using a subsoiling/slash placement implement mounted on an excavator and displaced soil will be leveled and slash scattered.

Where specified by the District’s physical scientist, subsoil skid trails, landings, and non-system roads within the project area through the full depth of compaction to restore soil porosity. Post-harvest compaction monitoring would be completed, and subsoiling of both project skid trails and landings, as well as legacy trails and landings, would be subsoiled to achieve FS Region 5 soil compaction standards. In addition, all temporary roads and those non-system roads to be decommissioned would be subsoiled. Selected landings and terminating skid trails would be subsoiled with a winged subsoiler or other equipment capable of lifting and fracturing compacted soil without mixing the soil horizons to a depth of at least 24”. Constructed skid trails would be subsoiled to a minimum depth of 24“, water-barred, and blocked. All primary skid trails, experiencing three or more passes with equipment, would be subsoiled with a winged subsoiler to a minimum depth of 20”. Post-harvest compaction monitoring would be completed, and both project skid trails and landings, as well as legacy trails and landings, would be subsoiled to achieve FS Region 5 soil compaction standards. The subsoiler would be lifted where substantial root and bole damage to larger trees would occur from subsoiling. Skids with slope over 25% may not be subsoiled, but would be frequently waterbarred. Areas within 50’ of ephemeral draws, swales, connected drainages, and meadow edges would not be subsoiled. Subsoiling would not occur on shallow soils where the displacement of rocks disrupts soil horizons or where there are concerns about the spread of root disease, or damage to tree roots.

Block vehicle access to temporary roads and install water-bars prior to subsoiling them.

Allow low ground pressure (under 8.0 psi) equipment to travel off of designated skid trails to bring logs to trails. Allow low ground pressure (under 8.0 psi) excavators to work on slopes up to 45% to pile excess fuels.

Silviculture

Pine stumps > 14” will be treated with a borate compound for the control of Annosus root disease. Generally, retain sugar pine and hardwoods in thinned units, with exceptions allowed for

safety and operability. Protect trees identified or trees being tested as genetically superior or resistant to blister rust or dwarf mistletoe.

Landings

Landings will generally not be within 100 feet of the stream course. If a landing is situated closer than 100 feet it will be tilled, seeded, mulched after use and available slash will be spread out across landing to improve infiltration and minimize erosion. Reference: BMP 1-12. No landing will be situated closer than 60 feet from the stream course.

Noxious Weed Management

Flame and/or handpull known noxious weed populations as necessary. Flag and avoid noxious weed populations during implementation.

Require off-road equipment and vehicles used for project implementation coming from weed-infested areas or areas of unknown weed status to be cleaned of all attached mud, dirt, or plant parts. Generally, this would be done at a vehicle wash station or steam cleaning facility before the equipment and vehicles enter the project area. Include applicable contract provision in all contracts for equipment cleaning.

Assure that all gravel, fill, or other imported materials are weed-free. Use on-site sand, gravel, rock, or organic matter rather than importing material where possible. Evaluate road locations for weed risk factors.

For all project-related revegetation, use weed-free equipment, mulches, and seed sources. Avoid seeding in areas where revegetation would occur naturally unless noxious weeds are a concern. Save topsoil from disturbed sites and replace it onsite unless contaminated with noxious weeds.

Botany

Protect known sensitive and special interest species according to PNF’s current interim management prescriptions for specific species.

If additional TES Plant species are found during the life of the project, conduct an assessment and apply appropriate management prescriptions.

Wildlife

Unless determined to be unnecessary following pre-implementation surveys, limited operating periods (LOPs) to protect key wildlife species listed in the HFQLG FEIS (page 2-8, table 2.3), 2004 SNFPA ROD (pages 54-62), and the Biological Evaluation/Biological Assessment would apply.

Where subsequent surveys identify occupied threatened, endangered, or sensitive species habitat, establish PACs, den site buffers, or other protections as described in the SNFPA and HFQLG EISs. Include protections for any additional sensitive species identified in the BE/BA.

In areas of known populations of TES amphibians, apply direction from the HFQLG FEIS/ROD and the SNFPA ROD. Apply additional protection measures as follows: do not burn slash piles within RHCAs during the LOP, and when burned, assure that 1) no fuel is dumped on the pile and fusees or a single propane torch is used to light the pile, and 2) light piles from a single location rather than multiple locations, allowing sheltering amphibians to escape.

Heritage Resources

The proposed project has the potential to affect heritage resources. As outlined in the Programmatic Agreement (PA), the following protection measures will be implemented, as appropriate, for all heritage resources located within the project area. The application of the following protection measures would result in the Freeman project having “no effect” on heritage resources and the Forest would have taken into account the effect of the project on heritage resource sites in compliance with the PA and Section 106 of the NHPA.

If any unrecorded heritage resources (artifacts, features, or sites) are encountered as a result of project operations, all activities in the vicinity of such finds will immediately cease pending an examination by the District Archaeologist.

- At a minimum, heritage resource sites shall be excluded from areas where activities associated with the project will occur.
    1. All proposed activities, facilities, improvements, and disturbances shall avoid heritage resource sites. Avoidance means that no activities associated with the project that may affect heritage resource sites shall occur within a site’s boundaries, including any defined buffer zones. Portions of the project may need to be modified, redesigned, or eliminated to properly avoid heritage resource sites.
    2. All heritage resource sites within the area of potential effect shall be clearly delineated prior to implementing any associated activities that have the potential to affect heritage resource sites.
    3. Buffer zones may be established to ensure added protection where the Forest or District Archaeologist determines that they are necessary. The use of buffer zones in conjunction with other avoidance measures are particularly applicable where setting contributes to the property’s eligibility under 36 CFR 60.4, or where it may be an important attribute of some types of heritage resource sites (e.g., historic buildings or structures; historic or cultural properties important to Native Americans). The size of buffer zones needs to be determined by the Forest or District Archaeologist on a case-by-case basis.
    4. When any changes in proposed activities are necessary to avoid heritage resource sites, e.g., project modifications, these changes shall be completed prior to initiating any activities.

5. Monitoring during project implementation, in conjunction with other measures, may be used to enhance the effectiveness of protection measures.
6. Upon approval of the Forest or District Archaeologist, low intensity underburning may be allowed over selected prehistoric sites as long as fuel loads are relatively light.
7. Upon approval of the Forest or District Archaeologist, existing breaches within linear sites may be designated on the ground and reused for project activities.
8. On a case by case basis linear sites may be breached to access treatment units with the approval of the Forest or District Archaeologist. These breaches must be kept to a minimum. Also the linear feature (road, ditch, or railroad grade) needs to be recontoured to look like it did before the breach was created.
9. Roads and trails that currently overlie historic linear sites may continue to be used as transportation routes without notification. However, if there are activities that will change the morphology of the existing road or trail (that is overlaying a historic linear site), these activities need to be reviewed by the Forest or District Archaeologist.
10. Roads proposed to be decommissioned that extend through archaeological sites will need to be blocked instead of sub-soiled.

Visual Quality Management (Immediate Foreground of Visual Corridors)

To the extent feasible, locate landings and primary skidtrails away from the immediate foreground of Sensitivity Level I and II travel corridors. Limit size of landings so that they are not visually evident from the sensitive travel routes following completion of treatment activities.

Minimize stump heights in both mechanical and handthinning units adjacent to sensitive travel corridors, typically resulting in stumps 6” or less in height within 300’ of the travel corridor.

During tree marking, open and enhance views of residual old growth trees near the visual corridor where possible.

Target consumption of burn piles of 95% or greater.

Target underburn mortality levels of 5% or less.

Transportation

Design all stream crossings to accommodate a 100-year flood, and provide fish passage as necessary. Decommission temporary roads after use.

Design and obliterate temporary stream crossings to protect water quality and adjacent riparian vegetation (see “Streamside Areas” section for additional procedures for protecting riparian vegetation).

Stabilize and strategically place water bars on temporary roads where drainage control issues are evident or expected. After use, barricade roads to discourage vehicle traffic, using available natural materials such as rocks, logs, root wads, and earth, to appear somewhat natural, have low installation costs, and require little to no maintenance.

Maximum draw-down volumes will be estimated prior to use of the draft site. Minimum pool levels will be maintained during drafting using measurements such as staff gauges, stadia rods, tape measures, etc.

Abate dust from logging traffic with water from water drafting sites that are selected based on stream flow and suitability of access. Construct water-drafting sites so that oil, diesel fuel, or other spilled pollutants would not enter the stream. Back down ramps will be constructed and or maintained to ensure the stream bank stability is maintained and sedimentation is minimized. Rocking, chipping, mulching, or other effective methods are acceptable in achieving this objective.

When water is scarce, alternative sources such as chlorite, sulfonate or other dust abatement materials would be used.

Implementation

Within the project contract area, allow minor adjustments in boundaries of units if compatible with Forest Plan direction, the desired conditions, and anticipated environmental effects disclosed by the project's NEPA document.

Range

Range improvements will be protected from damage caused by the project. Forest Representatives will administer contracts and burn plans. Contracts and burn plans will display where range improvements are located and include provisions to rebuild to standard any range improvements which are damaged by the contractor. Range improvements for each allotment are listed in Part 3 of the permittees Term Grazing Permit.

The Forest Service Contract Administrator and the Forest Service Prescribed Burn Manager should coordinate with the Forest Service Range Conservationist early each spring to discuss the portions of the project that will be implemented that year. The Forest Service Range Conservationist should discuss those project activities in the Annual Operating Instructions meeting with the permittee prior to the District Ranger's approval of that years Annual Operating Instructions.