

Draft Rocky Design Criteria/Mitigation Measures

Fuels

1. Any mechanical slash piling would be done with equipment capable of picking up (grasping) slash material and piling (as opposed to pushing/dozing) thereby meeting the objectives of minimizing detrimental soil impacts. Grapple piles would be covered, to facilitate consumption of piled fuels. Piles need to be 6-feet wide at base, 6-feet high as a minimum¹. An allowance for a small deviation from the stated dimensions would be made as long as this deviation does not jeopardize meeting any other stated goals. Any piling of slash will be kept separate from the chip material.
2. Chipped material will have to be spread to a depth of no more than 6 inches and ripped after spread along skid trails and landings
3. All slash needs to be piled and managed or removed by 2 years from contract completion (ie pile burning, complete pile burning, incineration, chipping)
4. Hand piles would be constructed with enough fine fuels to allow for ignition during fall and winter months, and covered, to facilitate consumption of piled fuels. Piles need to be 6-feet wide at base, 6-feet high as a minimum¹. An allowance for a small deviation from the stated dimensions would be made as long as this deviation does not jeopardize meeting any other stated goals.
5. Piles should be as compact and free of dirt as possible.
6. Slash piles should have a sound base to prevent toppling over and should be wider than they are tall. Pile branches with their butt-ends toward the outside of the pile, and overlap them so as to form a series of dense layers piled upon each other. Use a mixture of sizes and fuels throughout the pile. Piles should be kept compact and free of soil and noncombustible material, with no long extensions. Do not construct piles on stumps or on sections of large down logs
7. Pile size and location should be such to minimize damage to residual trees. Piles should be located at least 20-feet inside the unit boundary. Piles should not be placed on or in the following areas: pavement, road surface, ditch lines, the bottom of ephemeral channels, or within perennial or intermittent stream protection buffers.
8. Low severity burns² should constitute the dominant type of controlled burn within Riparian Reserves, resulting in a mosaic pattern of burned and unburned landscape.
9. Moderate severity burns³ are permitted in no more than 20% of Riparian Reserves to invigorate desirable deciduous species.
10. Burning activities excluded in Riparian Reserves are as follows: mechanical piling, ignition and mechanical fire line construction (e.g. dozer, tractor, etc.) within 100 feet of stream channels or springs.
11. Within Riparian Reserves; wet line or black line would be used to control prescribed fire perimeter.
12. Ignitions of hand piling slash in Riparian Reserves is permitted no closer than 30 or 60 feet of a stream, measured from the streambank.

¹ The Forest Service would meet an average width and length of 8-feet and height of 6-feet for mechanical and hand piles. From past experience with implementation, it is virtually impossible to maintain an exact dimension of fuel piles, so allowance for a small deviation would be made as long as this deviation does not jeopardize meeting the above stated goals.

² Low severity burn is defined as: "Small diameter woody debris is consumed; some small twigs may remain. Leaf litter may be charred or consumed, and the surface of the duff may be charred. Original forms of surface materials, such as needle litter or lichens may be visible; essentially no soil heating occurs."

³ Moderate severity burn is defined as: "Foliage, twigs, and the litter layer are consumed. The duff layer, rotten wood, and larger diameter woody debris is partially consumed; logs may be deeply charred; shallow ash layer and burned roots and rhizomes are present. Some heating of mineral soil may occur if the soil organic layer was thin."

13. Where handline is constructed, implement BMP's to reduce erosion and sedimentation risks, including constructing waterbars on all fire lines during initial fire line construction where slopes are greater than 20%.

Heritage

1. A 100-foot buffer zone for the exclusion of heavy machinery would be flagged around all cultural remains on significant heritage resource sites that are situated in areas scheduled for mechanical treatment.
2. A 50-foot buffer zone (each side of center line) for the exclusion of heavy machinery would be flagged or delineated along historic ditches. Ditch crossings will be limited to previous crossings.
3. Fire control line would be constructed, using either wet line or hand line, around all fire sensitive heritage resources.
4. Surface duff would be scraped away from the bases of all marked trees with telephone insulators.

Invasive

1. It is recommended that "pre-treatment" occur before any harvest activities are implemented along roads 4810 and 4811
2. In order to prevent the spread of invasive plants, all equipment would be cleaned of dirt and weeds before entering National Forest System lands. This practice would not apply to service vehicles traveling frequently in and out of the project area that would remain on the roadway.
3. The process for locating all new skid trails and landing locations would be coordinated with a noxious weed specialist to insure these locations are not within any currently established noxious weed populations. If necessary, pre-treat existing landings and skid trails that may be used for project implementation where existing infestations present an unacceptable risk of spreading established invasive plant populations.
4. If the need for restoration/revegetation of skid trails and landings is identified, the use of native plant materials are the first choice for meeting this objective where timely natural regeneration of the native plant community is not likely to occur. Non-native, non-invasive plant species may be used in any of the following situations: 1) when needed in emergency conditions to protect basic resource values (e.g., soil stability, water quality and to help prevent the establishment of invasive species), 2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, 3) if native plant materials are not available, or 4) in permanently altered plant communities.
5. If using straw, hay or mulch for restoration/revegetation in any areas, use only certified, weed-free materials.
6. Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that is judged to be weed free by District or Forest weed specialists.
7. No underburning would occur on treated sites within one year of herbicide treatments including roadside herbicide treatments.

Recreation

1. Developed recreation sites should not be used as landings or for equipment staging and any developed recreation sites impacted should be rehabilitated when treatment is complete.
2. Recreation specialist will develop public information materials and outreach plan using a combination of key entry/exit portals, visitor information boards and outreach via websites and other information sources.
3. Implement appropriate temporary closures as necessary to provide for public safety. Post closures at all temporary road access points, and access portals during treatment period(s). Closures and re-route information will be posted at designated OHV trail heads, parking areas, campgrounds and at

information kiosks when directed by recreation specialists. Information should also be disseminated to the public by recreation staff.

4. Ensure temporary roads not associated with OHV trails are decommissioned to impassible conditions when harvest activities are complete.

Trails

5. When possible, all mechanical brush piles and landings will be located at least 100 feet from trails not authorized for sale use. Hand piles would be located at least 50 feet from trails.
6. Within 100 feet of any system trail, skid trails should not run parallel system trail for more than 100 feet, unless approved by timber sale administrator.
7. All purposed built OHV trails that intersect units will be flagged prior to thinning operations. Include trails as protected feature in sale map.
8. Stumps within 5 feet of trails would be cut less than 3" to reduce potential hazard to recreationists
9. Whenever possible, any trees felled within 1 tree length of the trail will be felled away from the trail. Any trees which fell across the trail would be cut or removed to prevent blockage of trails.
10. Leave trees would not be marked facing the trail within 50 feet of any system trail.
11. Maintain all trail signage, and repair any incidental damage that may occur from operations
12. Any trail or trail crossing used for operations (temp roads, skid trails, fireline, landings, etc.) will be rehabilitated to meet standards associated with its designed use.
13. Temporary roads, skid trails, or equipment crossing system trails should be minimized. Any crossing points should be 100 feet apart and occur at right angles to the trail. Location of crossing points should be coordinated with the District Trail Manager.
14. Barriers to discourage OHV access off trail would be installed on any equipment, temporary road, or skid trail crossings of system or non-system trails.
15. Treatment activity should not impact approximately more than 25% of OHV trails or mixed use roads at one time and scattered, concurrent trail closures should be avoided.
16. Maintain higher retention (60% canopy) within 50 feet of system trails designated for OHV use.

Visuals

1. All stumps from 50 feet from trails would be cut with the angle away or low stumped from the trail
2. All brush piles and landings would be located so they are not visible from Forest Road 48 or Rock Creek Reservoir. If brush piles and landings cannot be hidden from view, then the sale administrator would work with the recreation staff officer for their placement.
3. All stumps within 100 feet of Forest Development Road 48 would be cut to 6-inches in height or less.
4. The methods used to rehabilitate landings, skid trails and temporary roads would be designed to meet VQO in the Foreground for Forest Development Road 48 unless blocked from view by topography or other features. (PR)
5. Ground disturbance and activity debris resulting from project activities would remain visually subordinate in the immediate foreground for the White River Watershed, Forest Development Roads 48 and Rock Creek Reservoir.
6. Piles would be visually subordinate along system trails, Forest Road 48 and Rock Creek Reservoir.

Aquatic

1. No ground based mechanized equipment such as tractors or skidders would be allowed within 100 feet of streams, seeps, springs or wetlands. This would reduce the chance of sediment delivery to surface water.
2. No skidding in riparian reserves between October 31 and June 1.
3. No vegetation removal or mechanical treatments will occur within one site potential tree height along fish bearing streams, 60 feet along any non-fish bearing perennial streams, or 30 feet along any non-fish bearing intermittent streams. Any trees felled within designated protection buffers

would be left on site as additional stream channel woody material. Protection buffers for fish bearing streams would be a minimum of one site potential tree height (varies dependent on vegetation type of 90 feet to 130 feet), non-fish bearing perennial streams, ditches, springs and wetlands and Rock Creek Reservoir would be a minimum of 60-feet and a minimum of 30-feet for non-fish bearing intermittent streams, except as outlined in Aquatic Stream Buffer Table. Buffers are measured from the edge of the bankfull channel on both sides of the stream (or water's edge in the case of a pond or wetland). Buffers would be expanded to include slope breaks where appropriate. Underburning will still occur and may need some brush removal and small (under 7 inch DBH) trees to be felled by hand and then hand piled prior to underburning.

4. Refuel mechanized equipment at least 150-feet from water bodies. Parking of mechanized equipment overnight or for longer periods of time would be at least 150 feet from water bodies or as far as possible from the water body where local site conditions do not allow a 150-foot setback. Absorbent pads would be required under all stationary equipment and fuel storage containers. A Spill Prevention Control and Countermeasures Plan would be prepared by the contractor as required under EPA requirements (40 CFR 112).
5. Use erosion control measures (e.g., silt fence, native grass seeding) where de-vegetation may result in delivery of sediment to adjacent surface water. Soil scientists or hydrologists would assist in evaluation of sites to determine if treatment is necessary and the type of treatment needed to stabilize soils.
6. If timber transport is approved between October 31 to June 1 on aggregate surface roads then the following criteria shall be met for roads that cross Gate Creek or its' tributaries:
 - a. Haul routes must be inspected weekly, or more frequently if weather conditions warrant. Inspections will focus on road surface condition, drainage maintenance, and sources of soil erosion and sediment delivery to streams.
 - b. Sediment traps will be inspected weekly during the wet season and entrained soil would be removed when the traps have filled to 3/4 capacity. Dispose of these materials in a stable site which is not hydrologically connected to any stream.
7. Logging activities will not be allowed in Riparian Reserves between October 31 to June 1 in lower elevation units.
8. Maintain physical and water quality integrity of facilities associated with the Springbox and watertank for the Sportsmans Park water supply during operations.
9. Protect or enhance existing dry and wet meadows by not allowing new temporary roads, landings or ground based equipment.

Roads

1. All signing requirements on roads that are open for public use within the Mt. Hood National Forest would meet applicable standards as set forth by the Manual of Uniform Traffic Control Devices (MUTCD). Some roads accessing State and County highways would require additional signing to warn traffic of trucks entering onto or across the highway.
2. Temporary roads and National Forest System roads which are designated for 'project use only' would be closed to public use. The purchaser should sign the entrance to such roads with "Logging Use Only" signs and make every reasonable effort to warn the public of the hazard and to prevent any unauthorized use of the road.
3. The use of steel-tracked equipment on asphalt or bituminous surfaced roads is strongly discouraged. If a suitable site for the loading and unloading of equipment and materials is not available, then use of a paved surface may be permitted provided that the purchaser uses approved matting materials (such as wood chip or crushed rock) to protect the road surface. Purchaser is responsible for restoring roads to existing condition.
4. Temporary roads and landings located on or intersecting National Forest System roads that are asphalt or bituminous surfaced would have 3-inch minus or finer dense graded aggregate placed at the approach to prevent surface damage. The purchaser should purchase the material from a commercial source and place the material so that the approach flares are wide enough to accommodate the off-tracking of vehicles entering onto or leaving the site.

5. Temporary roads and landings would not obstruct ditch lines. Temporary roads and landings that obstruct ditch lines or drainage ways should be improved by the purchaser, prior to commencing operations, with temporary culverts, french drains, drivable dips, or measures that provide effective drainage and prevent erosion.
6. On aggregate surfaced roads, mineral soil contamination degrades and reduces the load bearing capacity of the existing road surface. All appropriate measures would be taken to prevent or reduce such contamination. If contamination occurs, the purchaser should repair contaminated areas with specified aggregate surfacing.
7. Temporary roads and landings on temporary roads would be blocked, scarified, seeded and or mulched before the unit is released. Culverts should be removed and cross-drain ditches or water bars shall be installed as needed. Disturbed ground shall be seeded and mulched and available logging slash, logs, or root wads should be placed across the road or landing surface. Post-harvest motorized access would be prevented through the construction of a berm, placement of large boulders, or other approved techniques.
8. Pit run rock may be used when necessary to reduce erosion, ponding, rutting, and compaction on temporary roads and landings. To provide an efficient substrate for vegetative growth and water infiltration, rock would be removed or incorporated into the soil by decompacting to a depth of 24" or scarifying the roadbed following harvest activities.
9. Unsuitable excavation (any excavated soil that is silty, sandy, saturated, frozen, or contains clay, organics, or other deleterious material, or is otherwise unsuitable for use in road construction and maintenance work) derived from road maintenance or construction operations would be disposed of only at Forest Service approved sites outside riparian protection buffers (PDC A-2 and Table 2-7). Material disposed of should be spread evenly over an appropriate area in non-conical shaped piles with a maximum layer thickness of 4 feet. All disposals should be seeded and mulched at the completion of operations, and prior to the wet season. The wet season is the time of year with light to heavy amounts of precipitation occurring regularly characterized by saturated soils and higher stream flows; includes all days of the year not considered to be the dry season.
10. Stockpiles of aggregate intended for use on the project would be staged only at Forest Service approved sites. Materials should be placed in non-conical shaped piles with a maximum layer thickness of 3-feet. Stockpiles should be covered with weighted plastic sheeting when inclement weather is expected to protect it from precipitation and to prevent water quality degradation from runoff.
11. Existing vegetation in ditch lines hydrologically connected to streams (as defined in NWFP) must not be removed unless a sediment control feature such as biodegradable check dams constructed of bio-bags, straw bales, or other materials are installed. Sediment control features would be maintained until the sale is released and left in place.
12. Scheduled soil disturbing road maintenance or reconstruction should occur during the dry season, unless a waiver is obtained. Dry season is the time of year with light to moderate amounts of precipitation occurring sporadically, characterized by dry soils and lower stream flows; generally June 1 through October 31, but variable from year to year.
13. Follow the appropriate Oregon Department of Fish and Wildlife (ODFW) guidelines for timing of in-water work (in this watershed the in-water work window is July 1 to October 31. Exceptions to the ODFW in-water work windows must be requested by the Forest or its contractors, and subsequently approved by ODFW, U.S. Army Corps of Engineers, and Oregon Division of State Lands.
14. New temporary roads and landings should be located outside of Riparian Reserves. Use of existing facilities within riparian reserves may be allowed if erosion potential and sedimentation concerns could be sufficiently mitigated.

Log and Rock Hauling

1. Log and rock haul outside of the dry season shall not occur on native surface roads or established snowmobile routes.

2. Log haul, rock haul, and transport of heavy equipment may be allowed during the wet season on paved or aggregate Forest System Roads if approved by the District Ranger with input from the appropriate resource specialist(s) and the following criteria are met:
 - (a) Haul routes would be inspected weekly or more frequently as weather conditions may warrant to determine the condition of the road to adequately support heavy haul without undue damage to the transportation resource or other natural resources. Alternatively, the responsible official may give written approval of haul during the wet season.
 - (b) Sediment traps would be installed where there are potential sediment inputs to streams. Sediment traps would be inspected weekly by the Timber Sale Administrator (or other delegated qualified government representative) during the wet season and entrained soils would be removed when the traps have filled to 3/4 capacity. Dispose of these materials in a stable site not hydrologically connected to any stream.
 - (c) Precipitation amounts are similar to those found during the dry season, defined as follows: The daily precipitation level remains below the average daily maximum precipitation for the June through October period as measured at the precipitation gage nearest the project area; AND the two-week cumulative total precipitation remains less than the average maximum two-week precipitation levels during the June through October period as measured at the precipitation gage nearest the project area; AND no visible sedimentation is occurring in road ditches or culverts that can be attributed to the haul.
 - (d) Haul would cease at any time there is 1.0 inches of precipitation or greater within any given 24-hour period as measured at the lowest elevation along the haul route. To measure precipitation, the purchaser would install a temporary rain gauge on National Forest land near or adjacent to the lowest elevation along the haul route as agreed upon; otherwise, precipitation would be measured according to a local RAWS station as agreed upon prior to beginning operations.
 - (e) Haul would cease whenever 24 hours of continuous rain occurs regardless of measured precipitation amounts.
 - (f) Haul on established snowmobile routes and haul during weekends and federal holidays would occur only with written approval from the Responsible Official as informed by the Forest Service recreation specialist.
3. Log haul and heavy vehicle transport on Forest System Roads shall be prohibited when the temperature of the road surface, as measured at the lowest elevation along the haul route on National Forest System lands, is above 28 degrees Fahrenheit and when the temperature as measured at the highest elevation on the active haul route is between 28 and 38 degrees Fahrenheit or at any time when the designated Timber Sale Administrator determines that freeze-thaw conditions along the haul route exist.

Soil

1. All skid trails would be rehabilitated immediately after harvest activities. Existing landings not associated with temporary roads would have erosion control measures installed following fuels or reforestation treatments.
2. Ground-based harvest systems should not be used on slopes greater than 30 percent to avoid detrimental soil and/or watershed impacts.
3. Skid trails would be designated and approved prior to logging by the timber sale administrator and would be located on already disturbed areas where available.
4. Where practical, skid trails would avoid ephemeral draws. Crossings would be perpendicular to ephemeral draws.
5. If a proposal to implement winter logging is presented, the following should be considered by the line officer if the ground is not frozen hard enough and/or insufficient snow depth to support the weight and movement of machinery in moist to wet soil conditions (these are based upon observations and monitoring of winter logging in Sportsman's Park):
 - (a) The proposal should be considered on a unit by unit basis using soil types in the area since some soils may be more prone to detrimental damage than others

- (b) Because the margin of difference between not detrimental and detrimental soil damage can be so slim under moist to wet soil conditions, monitoring of the logging activity may need to occur daily, or more, as agreed to by sale administration and soil scientist
- (c) Equipment normally expected to traverse the forest, such as feller bunchers, track mounted shears, etc., should be restricted to skid trails once soil moistures are such that even one or two trips are causing detrimental soil damage out in the unit (i.e. not on landings or skid trails)
- (d) Due to higher PSI's than track mounted equipment, no rubber tired skidders should be used even on skid trails once soils become fully saturated (approach their liquid limit)

Vegetation

1. Tree planting would occur in gaps and areas where canopy closure would allow for the establishment of native tree species in both the uplands and riparian reserves.
2. Openings will not be created within 100 of non-temp road trails
3. Harvest operations (cutting) would occur between October 1 and April 1 in units 1-41

Wildlife

1. Northern spotted owl nest sites would be protected through the implementation of seasonal operation restrictions (March 1 thru July 15) for units 3, 23, 66, & 67. In the event that a new activity center is located during the period of the contract, seasonal operating restrictions would be implemented to units that are within the 65 yard disruption distance.
2. No activities may take place within 0.25 miles of a spotted owl nest site between March 1 and July 15. The following units are within 0.25 miles of a spotted owl nest area: 3, 22, 23, 65, 66, 67, & 69.
3. No activities may take place within 0.25 miles of a bald eagle nest site between January 15 and August 15.
4. An average of 6 logs per acre in decomposition classes 1, 2 and 3 should be retained. Logs should be relatively solid, retention of additional hollow and substantially fractured logs should be encouraged, tops should generally not be included. Logs should be at least 20 inches in diameter at the small end and have a volume of 40 cubic feet. Prior to harvest, contract administrators would approve skid trail and skyline locations in areas that would avoid disturbing key concentrations of down logs or large individual down logs where possible.
5. All snags would be retained where safety permits. If snags must be cut for safety reasons they would be left on site.
6. All Firewood activity would be restricted from December 1 – April 1.
7. Bald eagle winter roosting and perching sites will protected in units 53, 62, 63, 68, & 69.
8. Perch trees within 200 feet of shore line used by eagles would be maintained in Units 53, 62, & 69.
9. Raptor nesting areas would be protected according to the forest plan standards (Table Four-15) and by minimizing habitat management activities during the nesting season: March 1 to June 30.

Range

1. Protect existing range improvements

Aspen Thinning/Meadow Enhancement Areas Only

Aquatics

1. Mechanical equipment should be kept a minimum of 30 feet from streambanks.
2. When needed leave concentrations as structure in the channel and riparian area in order to meet project goals and objectives.

Fuels

1. Use moderate severity underburn techniques to promote root sprouting.
2. If possible, underburn aspen stands during the fall burn window.
3. May need to increase surface fuel loadings for fire to be effective to promote root sprouting; utilize thinned conifer encroachment material to accomplish if needed.

Soils

1. Provide soil effective groundcover as needed within 60 feet of watercourses prior to the first winter following implementation.
2. Work should occur during the driest part of the year (eg July 15 – Oct 1).
3. Low PSI (typically track mounted) equipment is preferable.

Vegetation

1. Do not cut ponderosa pine over 21 inches in diameter or Oregon white oak over 12” diameter at root coaler.
2. Minimize residual tree damage to aspen through the use of hand falling any trees within 25 feet of any live aspen over 12” diameter.
3. Do not cut Aspen.

Wildlife

1. After treatments protection aspen regeneration from ungulate browsing. When possible protection measures should be adaptable to future treatments.