

APPENDIX E.
Design Features

DESIGN FEATURES

The U.S. Forest Service (Forest Service) developed design features to minimize or avoid adverse effects that could occur as a result of implementing proposed activities associated with the Lookout Pass Ski Area Expansion. The design features are based on Forest Plan direction and policy, best available science, and site-specific evaluations, and would be applied to both action alternatives (except where specifically stated) during project implementation.

Features Designed to Protect Air Quality

All wood wastes would be chipped, where possible, and used for erosion control or visual mitigation.

Slash would be burned according to current air quality requirements.

Provisions to ensure adequate smoke dispersal during slash disposal would be implemented. All burning would be conducted in compliance with the Smoke Management Unit of the Montana and Idaho State Air Shed Groups.

Grading areas would be watered, as necessary and practical, to prevent excessive amounts of dust. In the absence of natural precipitation, watering of these areas would occur as practical.

All equipment would be properly tuned and maintained. Idling time would be minimized to the extent practical.

To the extent feasible, ski infrastructure and roads would be promptly constructed and installed to reduce the potential for dust. Area disturbed by clearing, earth-moving, or excavation activities would be kept to a minimum, as practical.

Features Designed to Protect Fish Species and Habitat

If threatened or endangered fish species are located during project implementation, appropriate measures, in accordance with Inland Native Fish Strategy (INFISH) guidelines (Forest Service 1995a) and pursuant to Section 7 of the Endangered Species Act, will be taken to protect the species and their habitats.

In development of the action alternatives, streamside buffers were used to protect water quality and aquatic biota as prescribed by the INFISH (Forest Service 1995a:A-6 through A-15).

No culvert replacements, culvert removals, and/or instream work would be permitted before July 15 or after September 1 to protect spawning and incubation periods for native trout.

The design of new or replaced culverts should be done in accordance with the Forest Service Handbook on Transportation Structures, 7709.56b (Chapters 60 and 70) (Forest Service 2014). In general, all structures should accommodate the bankfull stream width and the maximum design flood (100-year), including adequate freeboard, woody debris transport, and sediment passage without creating backwater conditions.

All activities would be designed to protect water quality and aquatic resources through the use of best management practices (BMPs).

Riparian vegetation, including overstory tree cover, will be left along waterbodies in accordance with INFISH guidance (Forest Service 1995a) and Forest Plan (Forest Service 1986, 2015) guidance to provide shade; maintain streambank stability; create in-channel structure and desirable pool quality and quality for aquatic organisms; and promote filtering of overland flows. In the event that streamside vegetation may be altered, a Forest Service hydrologist and/or biologist will be consulted to address allowance and if allowed, any necessary permitting or other appropriate mitigation measures.

INFISH standards and guidelines (Forest Service 1995a):

Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the Riparian Management Objectives (RMOs) and avoids adverse effects on inland native fish. Complete watershed analysis before construction of new recreation facilities in riparian habitat conservation area (RHCAs) within priority watersheds. For existing recreation facilities inside RHCAs, assure that the facilities or use of the facilities would not prevent attainment of RMOs or adversely affect inland native fish. Relocate or close recreation facilities where RMOs cannot be met or adverse effects on inland native fish cannot be avoided.

Determine the influence of each road on the RMOs. Meet RMOs and avoid adverse effects on inland native fish by doing the following:

- a. Reconstructing road and drainage features that do not meet design criteria or operation and maintenance standards, or that have been shown to be less effective than designed for controlling sediment delivery, or that retard attainment of RMOs, or do not protect designated critical habitat for inland native fish from increased sedimentation.
- b. Prioritizing reconstruction based on the current and potential damage to inland native fish and their designated critical habitat, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of RHCAs.
- c. Closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to listed inland native fish and their designated critical habitat, and the ecological value of the riparian resources affected.

Adjust dispersed and developed recreation practices that retard or prevent attainment of RMOs or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting RMOs and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.

Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions.

Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of RMOs and avoids adverse effects on inland native fish.

Features Designed to Protect Waters of the U.S., including Wetlands

During final submittal of construction plans and in the field, where possible, avoid and minimize wetland impacts.

Temporarily place construction spoils in upland areas in locations that will not migrate to wetland areas.

Preserve and replant appropriate vegetation and plant additional hydrophytic woody and herbaceous vegetation, where necessary, to speed the recovery of the wetland community.

Flush-cut and leave stumps and root wads intact on all hillslopes and avoid cutting in RHCAs, including wetlands. If cutting is proposed within RHCAs, the appropriate biologist and/or hydrologist will be contacted to address allowance and potential permitting and other mitigations.

Wetlands proximate to potential disturbance zones of project elements shall be flagged before the initiation of construction-related activities. Construction limits shall be clearly defined and shall include RHCA buffers. If alterations of RHCA provisions are proposed, the appropriate biologist and/or hydrologist will be contacted to address allowance and potential permitting and other mitigations. If operations occur on lands under LNF jurisdiction but managed by the IPNFs, the LNF will be notified for concurrence.

If wetland disturbance is permitted, Lookout Pass Ski Resort will work with the appropriate Forest Service hydrologist and/or biologist to restore wetland crossings immediately upon completion of construction.

Locate structures, support facilities, and roads outside RHCAs. RHCA boundaries would be flagged where activities come close to the RHCA to exclude ground-based equipment and other activities. Where no alternative to locating facilities outside of RHCAs exists, an appropriate Forest Service biologist and/or hydrologist will be contacted to address allowance, permitting, and potential location of the facilities in ways that avoid impacts to RHCAs and streams adverse effects on inland native fish. Work will be accepted in writing by the appropriate Forest biologist and/or hydrologist before work initiation.

Prohibit storage of fuels and other toxicants within RHCAs. Prohibit refueling within RHCAs.

Features Designed to Protect Threatened, Endangered, and Sensitive Plants

Threatened, endangered, and sensitive (TES) plant occurrences would have protection measures designed and implemented by the project botanist to ensure that activities do not contribute to the decline of the species or the need for federal listing. One or more of the following protective measures would be implemented: 1) modify the proposed unit or activity, 2) implement appropriately designed buffers, and/or 3) implement timber sale contract provisions for protection of threatened and endangered species, and settlement for environmental cancellation.

Before ground-disturbing activities, demarcate sensitive plants to ensure impacts are avoided to the greatest extent practicable.

Measures to protect TES plant population viability and habitat capability during noxious weed treatment would be implemented following guidelines provided in the *Lolo National Forest Noxious Weed Management Final Environmental Impact Statement and Record of Decision* and the *IPNFs' Noxious Weeds Final Environmental Impact Statement (FEIS) and Record of Decision* (Forest Service 1991, 2000).

Features Designed to Protect Soil and Water Resources

All activities would be designed to protect water quality and aquatic resources through the use of BMPs, which are the primary mechanism to enable the achievement of water quality standards. Forest Service Handbook 2509.22 (Soil and Water Conservation Handbook; Forest Service 1988) outlines BMPs that meet the intent of the water quality protection elements of the Idaho and Montana Forest Practices Acts and Guidance. BMPs to reduce effects to aquatic resources include the following:

- Slope Limitations for Tractor Operations, BMP 13.02
- Re-vegetation of Surface Disturbed Areas, BMP 13.04
- Timber Harvest Unit Design, BMP 14.02
- Log Landing Location and Design, BMP 14.10
- Using Sale Area Maps to Designate Soil and Water Protection Needs, BMP 14.03
- Limiting the Operating Period of Timber Sale Activities, BMP 14.04
- Timing Construction Activities, BMP 15.04
- Tractor Skidding Design, BMP 14.08
- Erosion Prevention Control Measures during Timber Sale Operations, BMP 14.12
- Erosion Control on Skid Trails, BMP 14.15
- Stream Channel Protection, BMP 14.17
- Erosion Control Structure Maintenance, BMP 14.18
- On-site Large Woody Residue and Soil Litter Retention, BMP 14.24
- General Guidelines for the Location and Design of Roads and Trails, BMP 15.02
- Mitigation Surface Erosion and Stabilizing Slopes, BMP 15.06
- Control Permanent Road Drainage, BMP 15.07
- Timely Erosion Control Measures on Incomplete Rds & Stream X-ing Projects, BMP 15.09
- Control of Road Construction Excavation and Sidecast Material, BMP 15.10
- Stream Crossings on Temporary Roads, BMP 15.15
- Bridge and Culvert Installation, BMP 15.16
- Obliteration of Temporary Roads, BMP 15.25

Before construction (including grading), submit a detailed erosion and sedimentation control plan to the Forest Service soil scientist and/or hydrologist for review and approval. This plan must include the following components: appropriate measures to avoid erosion (maximize infiltration and minimize soil particle detachment through slope roughening and compaction control, topsoil conservation and/or replacement, woody debris scatter, and surface protection through appropriate biodegradable fabric and/or mulch and/or revegetation, etc.) and appropriate measures to address erosion should it occur (i.e., silt fences, straw bales, straw wattles, and other appropriate erosion control BMPs). If operations occur on lands under LNF jurisdiction but managed by the IPNFs, the LNF will be notified for concurrence.

Variance in the grading plan up to several feet shall be allowed wherever possible to preserve the soil surface and maximize retention of vegetation understory.

A spill prevention and response plan, which would be included in the stormwater pollution prevention plans as part of the construction documents, would be developed. Fuel, oil, and other hazardous materials would be stored in structures placed on impermeable surfaces with impermeable berms designed to fully contain the hazardous material plus accumulated precipitation for a period at least equal to that required to mitigate a spill. Petroleum products would not be discharged into drainages or bodies of water. No fuels or construction machinery would be stored within stream or wetland buffers.

Where the potential exists for sediment delivery to water, erosion control measures (such as straw bales, wattles, silt fences, and hydro mulching) would be in place before and during ground-disturbing activities. To ensure effectiveness, erosion control measures would remain in place and functional until disturbed sites (such as roads, culverts, and landings) are stabilized, typically for a minimum period of one growing season after ground-disturbing activity occurs.

Before timber haul (or any heavy traffic use of the road), all BMPs and associated soil and water conservation practices designed to control surface drainage from roads would be in place on road segments to be used and would be maintained to ensure functionality. All BMPs would be inspected at the end of each operating season **by the Forest Service** to ensure their ability to protect water quality during spring snowmelt runoff season. A report of inspections will be provided to the managing National Forest who will distribute information to other appropriate and interested jurisdictions (e.g., LNF, Montana Department of Environmental Quality, U.S. Fish and Wildlife Service).

Schedule culvert installations, re-grading, glading, and other soil disturbances outside periods of heavy rain, spring runoff, or excessively wet soils.

Slash filter windrows would be used during ground disturbance where activities exist within 200 feet of streams and/or flood-prone areas.

Prompt revegetation upon project completion is required, including placement of adequate soil and/or compost, if appropriate growing medium is not present.

Fine organic matter and large woody debris would be retained on the ground for sustained nutrient recycling. Downed woody retention levels would be maintained wherever practical for both moist and dry forest habitat types in accordance with Forest Service Region 1 guidance.

In those units in which the parent geology is rated relatively poor for nutrient-holding capacity, slash would be left on the ground untreated from 9 to 15 months before prescribed fire activities are to occur (Johnston 2009). The length of time slash needs to remain on the ground before the fuel treatments is based on the season in which the harvest occurs. For winter harvest (December–February), logging slash should remain untreated for up to 15 months to enable all the nutrients to leach out and become usable to other vegetation. Likewise for spring harvest (March–May), untreated slash should remain on the ground for up to 12 months; and for summer and fall harvest (June–November), slash should remain on the ground for up to 9 months.

The latest soil nutrient management recommendations would be applied as appropriate to each location where organic material is removed. Slash should be left to overwinter nutrients back into the soil in most cases until fuel treatments occur. Units in which the tops are to be yarded will leave all limbs and breakage and overwinter before other fuel treatments are to occur.

Before grading, remove existing topsoil resources, either by machine or by hand, and stockpiled in an area where soils storage will not cause a resource impact. Subsequent to the grading activities, re-spread, mulch, and re-seed topsoil for use in the final restoration of the site, or other areas as approved by local Forest Service staff (i.e., placing soil on formally disturbed bare soil surfaces to reintroduce vegetation and preclude additional erosion and sedimentation).

As determined by monitoring efforts, areas determined by the appropriate Forest Service soil scientist to have been compacted by construction activities may require mechanical subsoiling or scarification to the compacted depth to reduce bulk density and restore porosity.

Soil and snow should not be side-cast into surface water during road maintenance operations.

Ground-disturbing management activities on landslide-prone areas should be avoided. If activities cannot be avoided, they should be designed to maintain soil and slope stability.

Features Designed to Protect Forest Vegetation

Woody debris retention guidelines would be followed (Graham et al. 1994).

White pine retention guidelines would be followed (Graham et al. 1994).

All regeneration areas would be planted with site-adapted species/seed source.

To reduce residual stand damage, log length skidding and yarding would be required unless otherwise approved in consultation with the district silviculturist.

Harvest and site preparation treatments would consider the short- and long-term potential negative effects (including blow down, fire mortality, etc.) of proposed activities on adjacent trees and stands with site-by-site prescription modifications, such as change in unit boundary, modification of prescribe burning prescriptions, etc.

All vegetative treatments would have silvicultural prescriptions approved by a certified silviculturist before treatment.

Where feasible, no slash pile would be created within 20 feet of any overstory leave trees, with an emphasis on keeping slash piles far away from white pine leave trees.

Before construction, identify and flag trees meeting the definition of a legacy tree. Preserve these trees to the greatest extent practicable.

Any Engelmann spruce that is felled must be either removed from the area or treated (within 1 year after felling) to prevent the buildup of spruce bark beetle. Treatments can include burning, burying, or peeling the bark off felled Engelmann spruce.

Efforts should be made to retain or transplant seedlings and saplings to other areas to maintain vegetation cover (with regards to lodgepole pine mortality).

Adequately mark tree clearing limits to avoid errors in clearing limits during construction.

Understory vegetation would be preserved to the extent possible in all areas designated for flush cutting and/or overstory vegetation removal.

Features Designed to Minimize the Spread of Noxious Weeds

To help reduce the spread of noxious weeds and prevent the introduction of new invader species, a contract provision for equipment washing would be used in all construction and timber sale contracts.

Provisions in the timber sale contract would require the purchaser to seed and fertilize areas of soil disturbance associated with skid trails, and landings.

Provisions in the road construction contract would require leaving a roughened surface on cut and fill slopes, wherever possible, and for all soil disturbance to be seeded with an approved seed mix. Mulching would be done where deemed appropriate by the project sale administrator and botanist. Fertilizer would not be used.

All plant materials used in the project, including grass seed and mulch, would be certified noxious-weed free. Grass seed would be certified, blue-tagged seed.

Treat travel routes with approved herbicide before accessing the project area for project construction. Travel routes include ski area access roads, after leaving county-administered roads.

Native plant materials are required to be used in restoration projects (FSM 2070.3; Forest Service 2008). Locally obtained materials are preferred, but if unavailable or economically unfeasible, appropriate materials may be substituted that meet Region 1 guidelines (**Forest Service 1995b**).

Features Designed for Silviculture

All scheduling of harvest activities would occur when the soil profile is dry to reduce the effects from compaction.

Ground-based yarding would operate on slopes generally under 35% and use existing skid trails whenever possible. When incidental steeper slopes of up to 40% are encountered, skid trails should not be longer than 200 feet in length along those increased slopes with no turning. Where terrain is conducive, go back trails should be used to minimize impacts wherever possible.

All new skid trails would be designated and laid out to take advantage of topography and minimize disruption of natural drainage patterns. Where terrain is conducive, trails would be spaced at least 100 feet or more apart. Mechanized felling and skidding would allow skid patterns to be closer provided the soil profile is dry and slash mats are being used. Post-harvest, ground disturbance associated with skid trails would be covered with slash and randomly placed logs (on the contour) and seeded with the latest seed mix recommended at time of implementation to help increase the microtopography needed to reduce runoff.

The use of excavated skid trails would be allowed in areas essential for safe and efficient operations. These skid trails should not exceed 200 feet in length, and excavated only to the width needed to make operations safe. All excavated skid trails would be subject to approval by the timber sale administrator and the District's soil specialist. After all sale activities have ended, the excavated portions associated with the ground-based units would be decompacted, top soil and organic material redistributed, seeded with native grasses and available coarse woody debris scattered over the top.

The use of jump-down pads would be allowed in tractor swing units where essential for safe and efficient operations. The pads would only be excavated to minimal dimensions necessary for safe operations. All excavated jump down pads would be subject to approval by the timber sale administrator and the District's soil specialist. After all sale activities have ended, the excavated portions associated with the tractor swing units would be decompacted, would have top soil and organic material redistributed, would be seeded with native grasses and would have available coarse woody debris scattered over the top.

The leading end of logs would be suspended during yarding.

Any ground-based piling of slash (grapple-piling) would use existing skid trails where possible and operate on slash mats wherever possible. Burn piles should be small and numerous rather than large and few.

Existing roads would be used as landings where appropriate to avoid further disturbance with the creation of new landings. All landings that are free of slash piles, other than existing or newly constructed system roads, would be decompacted and covered with residual slash for coarse-woody debris by habitat type, and seeded upon completion of the sale following FSM 2070.3 (Forest Service 2008) for genetically appropriate native plant materials.

Depending on current site conditions, the following requirements would apply if any ground-based operations are to be conducted in the winter:

- A. Operate on a snow layer of 18 inches of settled snow or when the ground is frozen to a minimum depth of 3 inches for small equipment and 6 inches for larger equipment.
 - B. Suspend operations under wet or thawing conditions.
 - C. Additional recommendations to minimize soil disturbance include plowing snow from (or packing snow onto) travel routes and permitting them to freeze by delaying operations on these travel routes until they have sufficiently frozen.
-

Temporary Road Decommissioning

Decompaction of the running surface to a depth not less than 18 inches with as little mixing of horizons as possible shall occur before any side cast upper horizon soil profiles are placed across the road surface.

After running surface is decompacted, side cast material can be laid over the running surface matching the top of cut slope and bottom of fill slope for proper shape.

Slash and coarse woody debris on site from the temporary road construction and adjacent harvest activity will be placed on the newly recontoured sections to promote nutrient cycling and reduce recovery time.

Snag Retention

Existing and green trees for future snags would be retained across the management units to meet the Northern Region Snag Management Protocol, within the confines of Occupational Safety and Health Administration (OSHA) safety standards. Existing dead trees that do not meet saw log merchantability standards would remain standing unless needed to be felled for safety reasons. Snags that are felled for safety reasons should remain on site to provide for wildlife habitat and long-term site productivity.

To maintain habitat for snag-dependent species, the height of “tail trees” or trees to which cable lines are attached would be maintained after harvest, within the confines of OSHA safety standards.

Features Designed to Protect Wildlife

Lynx

Conservation measures for preventing impacts to lynx at developed recreation sites used to develop and evaluate impacts on lynx as outlined in the *Canada Lynx Conservation Assessment and Strategy (Interagency Lynx Biology Team 2013)* will be reviewed during project implementation to ensure that all applicable measures are implemented.

Design trails, roads, and lift termini to direct winter use away from lynx diurnal-security habitat.

Identify and protect potential lynx security habitats in and around proposed developments or expansions.

When designing ski area expansions, provide adequately sized coniferous inter-trail islands, including the retention of coarse woody material, to maintain snowshoe hare habitat.

Evaluate and adjust as necessary, ski operations in expanded or newly developed areas to provide nocturnal foraging opportunities for lynx in a manner consistent with operational needs, especially in landscapes where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

To reduce potential impacts to lynx diurnal security habitat (DSH) and winter foraging habitat (WFH) outside of the proposed expansion, Lookout Pass Ski Area will establish an operational boundary back to the existing ski area to discourage skiers from exiting the proposed ski area boundary and downhill skiing through the trees.

Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation sites or ski areas.

Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.

When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area’s operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from forested stringers.

Other Species

If any TES wildlife species are observed in the resource area during implementation, the District wildlife biologist would be notified within 48 hours. The wildlife biologist would determine any project modifications necessary under the timber sale contract provisions to protect the species and its habitat based on applicable laws, regulations, and management recommendations for the species.

If any sensitive species or management indicator species is found to be nesting in an area scheduled for an activity, the activity may be delayed or modified in the area as recommended by the wildlife biologist.

To protect habitat for Coeur d’Alene salamanders, placing soil on wet, fractured, or moss-covered rock should be avoided during culvert replacement and road decommissioning activities.

Retain snags for nesting structures where snags are underrepresented. Conduct this activity where it does not pose a safety concern to skiers.

Revegetate any loss of riparian vegetation caused by construction activities immediately after construction with native vegetation, willow cuttings, and/or native, certified, weed-free seed.

During construction, enforce measures to ensure that trash or refuse associated with construction is minimized.

All construction activities should be confined to daylight hours, excluding emergencies.

To the extent possible, if fisher or wolverine dens are detected within construction areas, direct mortality of current year recruitment could be avoided by conducting activities in potential denning habitat outside of denning periods.

No food/drink should be kept/stored in construction worker vehicles. All windows should be kept closed and doors locked on all vehicles to prevent bear entry.

Wildlife Security and Movement

To maintain wildlife security during project activities, gates would be closed on any road currently closed to the public that is opened, constructed, or reconstructed for the project. Gates on all roads would be closed after the passage of each vehicle, and would remain closed at the end of the day. Where barriers are removed during activities and public access is created, gates would be installed.

To maintain wildlife security at the end of project activities, all closure devices that were removed to allow project activities would be replaced, meeting or exceeding the current closure condition.

Features Designed to Protect Recreation Uses

Notices would be posted on trailheads informing visitors about the possibility of encountering construction noise and activities within the ski expansion area. The notices would also identify where and when construction activities would be taking place

Provisions in the timber sale contract would require that traffic control signs using standards set forth in the *Manual on Uniform Traffic Control Devices* (U.S. Department of Transportation, Federal Highway Administration **2012**) be posted on affected routes to alert travelers to haul truck traffic.

Cutting brush along low-speed, low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.

Provisions in the timber sale contract would restrict timber hauling on the weekends and on summer holidays (Memorial Day, 4th of July, and Labor Day), unless otherwise agreed.

Features Designed to Protect Visual Resources

Avoid straight edges where removing trees. The edges of lift lines, trails, and structures where the vegetation is removed should use a variable density cutting (feathering) technique applied to create a more natural edge that blends into the existing vegetative cover. Edges should be non-linear, and changes in tree heights along the edges of openings should be gradual rather than abrupt. Soften hard edges by selective removal of trees of different ages and heights to produce irregular corridor edges where possible.

All disturbed areas shall be revegetated after the site has been satisfactorily prepared. Seeding should be repeated until satisfactory revegetation is accomplished. Reseed with a native seed mixture using a variety of native seed grasses, wildflowers, and forbs.

Follow FSM guidelines (**Forest Service 2003**; Section 2380 **Landscape Management**) and Built Environment Image Guide (BEIG) guidelines (**Forest Service 2001**): The scenic character will be protected through appropriate siting of buildings and the use of low-impact materials and colors (e.g., indigenous construction materials, such as stone and wood, as well as low-reflective glass and roofing materials). Remain in context with the landscape (i.e., rustic, craftsman, and country lodge styles). Architecture, materials, and colors should follow the Forest Service's BEIG. Additionally, *National Forest Landscape Management for Ski Areas, Volume 2, Chapter 7* (Forest Service 1984) refers recommended colors for ski areas on page 37 of that handbook. The colors are darker colors; greens, browns, navy blue, grays and black.

Cut stumps as low as possible to the ground to avoid safety hazard and to meet scenery objectives.

Re-grade to restore a natural terrain appearance. Blend site grading disturbance into the existing topography to achieve a natural appearance and minimize cuts and fills at the transition with proposed grading and existing terrain.

The Forest Service encourages Lookout Pass Ski Area to construct the restroom facility and ski patrol/warming hut facility to meet a Leadership in Energy & Environmental Design (LEED) or LEED equivalent rating of gold.

Features Designed to Protect Cultural Resources

Although cultural resources surveys are designed to locate all archaeological sites and site components that might be eligible for the National Register of Historic Places, such sites and site components may go undetected for a variety of reasons. Should any previously unrecorded cultural resources be discovered during project implementation, activities that may be affecting that resource would be halted immediately; the resource would be evaluated by an archaeologist; and consultation would be initiated with the State Historic Preservation Office (SHPO), as well as with the Advisory Council on Historic Preservation, if required, to determine appropriate actions for protecting the resource and for mitigating any adverse effects on the resource. Project activities at that locale will not be resumed until the resource is adequately protected and until agreed-upon mitigation measures are implemented with SHPO approval.

The Forest Service Timber Sale Contract provision for Protection of Cultural Resources would be included in all timber sale contracts.

Buffer zones would be placed around sites that exist in areas where ground-disturbing activities may take place. Buffer zones would be delineated by the Forest or District archeologist where appropriate.

Features Designed to Protect Mine Claim Monuments

Per *FSM 2814.21 - Respect Claim and Claimants Property*; the Forest Service must respect claims and claimants' property by using precautions to avoid damage to claim corner markers, excavations, and other mining improvements and equipment (Forest Service 2007). The project has within its bounds hundreds of mine claims, with multiple forms of monuments to indicate claim corners. Some examples of monuments include blazed trees, posts, stone mounds, and metal posts. Reasonable efforts will be made to preserve corner monuments when discovered, or otherwise made aware of their specific location and disposition.

Literature Cited

- Graham, R.T., A.E. Harvey, M.F. Jurgensen, T.B. Jain, J.R. Tonn, and D.S. Page-Dumroese. 1994. *Managing Coarse Woody Debris in Forests of the Rocky Mountains*. Research Paper INT-RP-477. Ogden, Utah: U.S. Forest Service Intermountain Research Station.
- Interagency Lynx Biology Team. 2013. Canada Lynx Conservation Assessment and Strategy. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 pp.**
- Johnston, M. 2009. Potlatch Slash Leaching Trial. Preliminary Branch and Soil Result. Intermountain Forest Tree Nutrition Cooperative. Annual Meeting 2009. College of Natural Resources, University of Idaho. .
- U.S. Department of Transportation, Federal Highway Administration. 2012. *Manual on Uniform Traffic Control Devices*. Available at: <http://mutcd.fhwa.dot.gov/pdfs/2003/CoverIntroTOC.pdf>. Accessed February 18, 2016.
- U.S. Forest Service (**Forest Service**). 1984. *National Forest Landscape Management. Volume 2, Chapter 7, Ski Areas*. Washington, D.C.: U.S. Department of Agriculture Forest Service National Headquarters.
- . 1986. *Lolo National Forest Plan*. Missoula, Montana: U.S. Department of Agriculture Forest Service, Lolo National Forest. 416 pp.
- . 1988. *FSH 2509.22 - Soil And Water Conservation Practices Handbook. FSH 2509.22 R1/R4 5/88*.
- . 1991. *Lolo National Forest Noxious Weed Management Final Environmental Impact Statement and Record of Decision*.
- . 1995a. *Inland Native Fish Strategy: Interim Strategies for Managing Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and Portions of Nevada*. U.S. Department of Agriculture Forest Service, Intermountain, Northern, and Pacific Northwest Regions. Environmental Assessment, Decision Notice, and Finding of No Significant Impact. 211 pp.
- . 1995b. **R1 Native Plant Handbook. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5441766.pdf.**
- . 2000. *IPNFs' Noxious Weeds Final Environmental Impact Statement (FEIS) and Record of Decision*.
- . 2001. *The Built Environmental Image Guide for the National Forests and Grasslands. FS-710. September 2001. Available at: <http://www.fs.fed.us/recreation/programs/beig/>.*
- . 2003. *FSM 2300 - Recreation, Wilderness, and Related Resource Management, Chapter 2380 - Landscape Management. Amendment No. 2300-2003-1. Available at: <http://www.rosemonteis.us/files/references/usfs-2003a.pdf>. Accessed September 28, 2016.*
- . 2007. *FSM 2800 - Minerals And Geology. Chapter 2810 - Mining Claims. Amendment No.: 2800-2007-2. Section 2814.21. Effective Date: April 4, 2007. Washington, D.C.: U.S. Department of Agriculture Forest Service National Headquarters.*

- . 2008. *FSM 2000 – National Forest Resource Management*. Chapter 2070 – Vegetation Ecology. Section 2070.3. Amendment No.: 2000-2008-1. Effective Date: February 13, 2008. Washington, D.C.: U.S. Department of Agriculture Forest Service National Headquarters.
- . 2014. *FSH 7709.56b - Transportation Structures Handbook*. Amendment No.: 7709.56b-2014-1. Effective Date: November 24, 2014. Washington, D.C.: U.S. Department of Agriculture Forest Service National Headquarters.
- . 2015. *Land Management Plan, 2015 Revision, Idaho Panhandle National Forests*. Washington D.C.: U.S. Forest Service, Northern Region. 197 pp.

This page intentionally blank