Decision Notice and Finding of No Significant Impact

Environmental Assessment

Purgatory Resort Gelandé Chairlift, Terrain Project, and Boundary Adjustment

San Juan National Forest
La Plata County, Colorado

United States Department of Agriculture

Forest Service

Rocky Mountain Region

May 2018

Contents

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Introduction/Background

This Decision Notice documents my decision and rationale for approving the proposed projects on the Columbine Ranger District, San Juan National Forest (SJNF). The Project Area is located within Purgatory Resort (Purgatory), La Plata County, Colorado. My decision is based on and supported by the March 2018 *Purgatory Resort Gelandé Chairlift, Terrain Projects, and Boundary Adjustment Environmental Assessment* (EA).

Purgatory operates under a special use permit (SUP) administered by the SJNF's Columbine Ranger District. The 2013 San Juan National Forest Land and Resource Management Plan (Forest Plan) provides general standards and guidelines for the operation of Purgatory regarding its activities and operations on National Forest System (NFS) lands. The SUP and associated summer and winter operating plans, as well as other resource management documents, provide more specific guidance for annual winter and summer ski area operations and projects. The approved projects are variations of projects analyzed in the *2008 Durango Mountain Resort Improvement Plan Final Environmental Impact Statement* (2008 FEIS) and approved in the *Record of Decision* (2008 ROD) that followed.

Purpose and Need for Action

The **purpose** of the Proposed Action is to allow Purgatory to meet the increasing demand for expert-level terrain on the front side of the mountain and to reduce skier traffic in the congested Demon ski trail area by constructing a chairlift that provides direct access to separate terrain. There is a **need** for the Proposed Action to improve access to available terrain from a separate base area portal, which will improve skier circulation across the mountain. The need for the Forest Plan amendment is to keep the adjusted ski area permit boundary within Management Area 8.

Decision and Reasons for the Decision

After thoroughly considering the Purpose and Need for Action, issues, range of alternatives, and analyses presented in the EA, as well as public comments that were received, **I am approving the Proposed Action** with the inclusion of all design criteria identified in Table 1 of the EA and included in Appendix A of this document. The Selected Alternative will include construction of a new chairlift, associated utilities, and ski trails to be served by the proposed chairlift. The attached figure identifies components of the Selected Alternative.

The Selected Alternative, along with my decision to require Design Criteria, meets all applicable laws, regulations, and policies. With the application of Design Criteria, the project will not result in any unacceptable effects to NFS lands. Failure to comply with the required Design Criteria will constitute a breach of the project approval and could suspend construction and/or operations on the facilities approved by this decision.

Purgatory is required to prepare and submit several documents for Forest Service approval prior to beginning any approved construction activities. For example:

- Project construction and grading plans
- Engineered plans
- Pre-construction erosion control/drainage management plans
- Noxious weeds annual monitoring report (for three years post-construction)
- Post-construction revegetation and rehabilitation plans

Selected Alternative Description

The approved Gelandé chairlift realignment will result in a chairlift that is approximately 300 feet shorter than the previously approved chairlift (4,200 feet in length total) and is located 250 feet (bottom terminal) to 900 feet (top terminal) south of the previously approved chairlift. The 2008 ROD approved approximately 16.9 acres of disturbance total (12.4 acres vegetation clearing only, 4 acres vegetation clearing and grading, and 0.5 acre grading only) to widen the Styx ski trail and install the chairlift. This previously approved clearing acreage will be spatially reassigned to create a new return ski trail from top to bottom of the Gelandé chairlift (located just north and west of the approved chairlift) as well as a new connecting ski trail from the lower Styx ski trail to the bottom, both terminating at the approved Gelandé chairlift bottom terminal. Because the clearing associated with the widening of the Styx trail will no longer be necessary, the realignment and trails will not constitute any additional disturbance from what was previously approved on public lands. The bottom terminal will be located on private land, and the top terminal will be located on NFS lands, requiring a similar amount of disturbance as previously approved. An access road approximately 1,000 feet in length will be constructed from the existing top terminal of the Needles chairlift to the top terminal of the approved Gelandé chairlift realignment. The Selected Alternative includes 16.1 acres of disturbance total (15.4 acres of vegetation clearing only, 0.4 acre of vegetation clearing and grading, and 0.3 acre of grading only).

At the time of this decision, the selection of the exact type of chairlift that will be installed is unknown. Depending on the lift design, access to lift towers for construction and the top and bottom terminals access routes will need to be approved by the Forest Service prior to construction.

SUP Boundary Adjustment

The approved chairlift alignment falls partially outside the existing SUP boundary and will require a 26-acre adjustment of the SUP boundary into current Forest Plan Management Area 4 and Management Area 5. The management areas are allocated for “high-use, recreation emphasis” and “active management (commodity production in order to meet multiple-use goals),” respectively. Therefore, the Selected Alternative includes a Forest-wide Forest Plan amendment to change the current management areas within the SUP boundary adjustment area to Management Area 8, to be consistent with ski area operations.

Detailed analysis regarding the potential Forest Plan Amendment is provided in Appendix B of the EA.

Tree Removal Methods

Some components of the Proposed Action will require vegetation clearing in areas that are currently forested. To remove cleared overstory vegetation from the proposed Gelandé chairlift line, access road, and ski trails, as described in the Proposed Action, Purgatory could implement any of tree-removal methods described below. Prior to implementation, consideration would be given to choosing the method, or combination of methods, that would be practical and minimize resource impacts. The Forest Service would need to approve specific methods. The potential options allow for flexibility and attention to location-specific conditions. Purgatory would provide the Forest Service with adequate time to designate, measure, and appraise merchantable timber prior to logging activities.

Where proposed projects are located near existing roads or otherwise readily accessible in flatter terrain, timber removal would likely occur by conventional means using heavy equipment (e.g., log skidder, skid steer, buncher-feller, etc.). Heavy equipment would not cross stream channels and/or wetlands within project areas. Landings and skid trails will need prior approval by the Forest Service.

On steep terrain with limited road access, timber could be removed by cable or helicopter. Logs would be removed from the project site to a deck in the Gelandé parking area along the highway. Helicopter operations would be limited to the hours between 8:00 a.m. and 6:00 p.m.

When it is not feasible to remove felled trees from the project site, a Forest Service Representative would work with the operator to develop site specific mitigations to minimize potential bark beetle infestations and safety hazards. This may include bucking green trees and/or scattering slash and/or piling and burning slash.

Rationale for My Decision

In reaching my decision I relied heavily upon an Interdisciplinary (ID) Team comprised of Forest Service resource specialists who analyzed the effects of the two alternatives documented in the EA. I considered the following issues and concerns: anticipated effects to recreation; scenery; wildlife; watershed and aquatic resources; and geology and soils. I also understand that certain resources were not carried forward in detailed analysis for the EA; however, those resources were considered by the ID Team and determined to be eliminated from detailed analysis with rationale. I also reviewed the Design Criteria included in the EA, as well as public comments received during scoping, and considered how the Selected Alternative would respond to the stated Purpose and Need.

In reviewing the qualitative and quantitative effects on the human and biological environment presented in the EA, I find they have been adequately addressed and disclosed. I considered impacts to the full range of resources affecting the human, biological, and physical environments. I have reviewed the potential direct, indirect, and cumulative impacts. Specifically, I have considered impacts to Canada lynx, other listed wildlife species, and erosion and geohazards. Through the application of appropriate Design Criteria identified to minimize impacts to the resources of concern, I feel confident that potential impacts have been thoroughly assessed and disclosed.

Overall, I believe my decision will improve the experience of guests to the Forest within the Purgatory SUP area in conjunction with the stated environmental impacts.

Other Alternatives Considered

The Proposed Action was the only alternative analyzed in detail in the EA. In accordance with Forest Service Handbook 1909.15, Chapter 40, Section 41.22, and 36 CFR § 220.7(b)(2)(ii), the EA did not include an analysis of the No Action Alternative, which was analyzed in the 2008 EIS; however, one other alternative was considered early in the NEPA process. This alternative included implementing the Proposed Action without the proposed Forest Plan Amendment. The concept was thoroughly considered by the Forest Service against Forest Plan direction and was not carried forward into detailed analysis.

Public Involvement

In December 2017 a Notice of Proposed Action was mailed or emailed to 60 community residents, interested individuals, government officials, public agencies, tribal governments, and other organizations, initiating a 30-day comment period. Seven comment letters were received during scoping and were then utilized by the ID Team to identify substantive issues and to consider potential alternatives to the Proposed Action. I considered these comments and provided a response to them (refer to Appendix A of the EA). After reviewing public comments, as well as internal concerns raised by Forest Service specialists, a final list of issues was assembled, which helped guide subsequent analysis. Issues are identified in Chapter 1 of the EA.

Finding of No Significant Impact

After reviewing the EA, I have determined that the Selected Alternative will not, individually or cumulatively, significantly affect the quality of the human, biological, or physical environment. The provisions of 40 CFR § 1508.27 indicate that project significance must be judged in terms of both *context* and *intensity*. Based on a review of these provisions, I have determined that an environmental impact statement is not required. I base my findings on the following definitions of *context* and *intensity*:

Context

The significance of an action must be analyzed in several contexts and varies with the setting. In the case of site-specific actions, significance depends more on the effects in the locale rather than the world as a whole. Both short- and long-term effects are relevant. The direct and indirect effects analysis contained in the EA focuses on the Purgatory project area, and extends further for cumulative effects analysis, depending on the resource.

Intensity

Intensity is a measure of the severity, extent, or quantity of effects, and is based on information from the effects analysis of this EA and the references in the project file. An initial screen was conducted to ensure that the Selected Alternative is consistent with the 2013 Forest Plan, and I have determined that the ID Team considered the effects of this project appropriately and thoroughly with an analysis that is responsive to concerns and issues raised by the public. They considered the environmental effects using relevant scientific information and their knowledge of site-specific conditions gained from field visits. My finding of no significant impact is based on the intensity of effects using the ten factors identified in 40 CFR § 1508.27(b).

1) Consideration of both beneficial and adverse impacts.

I have considered both the beneficial and adverse impacts associated with the Selected Alternative as presented in the EA and this Decision Notice. The Selected Alternative will provide recreational benefits to users of the SJNF and will improve recreation opportunities on NFS lands. Any adverse impacts to recreation; scenery; wildlife; watershed and aquatic resources; and soils and geology are thoroughly documented in Chapter 3 of the EA and are determined to be avoidable and non-significant. Other issues and resources were not included in detailed analysis in the EA due to a lack of anticipated impacts, or because the resource was thoroughly analyzed through previous analyses and the conditions had not changed. My finding of no significant environmental effects is not biased by beneficial effects of the action.

2) Consideration of the effects on public health and safety.

Although there are inherent risks associated with lift-served alpine skiing, the Selected Alternative does not significantly affect public health or safety.

3) Consideration of the unique characteristics of the geographic area.

There are no unique characteristics of the geographic area affected by this decision.

4) Consideration of the degree to which the effects on the quality of the human environment are likely to be considered controversial.

The term "controversial" in this context refers to cases where substantial scientific dispute exists as to the size, nature, or effects of a major federal action on some human environmental factor rather than to public opposition of a proposed action or alternative.

No scientific dispute exists regarding the Selected Alternative or the analysis contained in the EA. Based on the fact that the Forest Service has analyzed and approved numerous projects of this type, the effects of this project are not considered to be controversial, nor is there scientific dispute about these effects.

5) Consideration of the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

This project is common at ski areas that operate on NFS lands. The analysis shows the effects are not uncertain, and do not involve unique or unknown risks. Therefore, based on the Forest Service's experience with implementing these types of activities, as well as the requirement to implement Design Criteria to minimize effects, I have determined that there will not be significant effects on the human environment.

6) Consideration of the degree to which this action may establish a precedent for future actions with significant effects or that it represents a decision in principle about future considerations.

I determined that this decision does not establish precedence for future actions with significant risks to the environment. The Selected Alternative is consistent with forest-wide and Management Area 8 direction, as well as the Purgatory SUP. Furthermore, the approved projects and activities are common at a developed resort such as Purgatory.

7) Consideration of the action in relation to other actions with individually insignificant but cumulatively significant impacts.

The Cumulative Effects analyses presented for each resource throughout Chapter 3 in the EA discloses past, present, and reasonably foreseeable future actions with potential to lead to effects which are cumulative in nature. Due to avoidance, project-specific Design Criteria, and the implementation of Best Management Practices, this analysis does not identify any cumulatively significant impacts that are anticipated to result from implementation of the Selected Alternative.

8) Consideration of the degree to which the action may affect listed or eligible historic places.

Cultural resources were initially to be included for detailed analysis due to the possibility that ground disturbance related to construction of the proposed infrastructure could impact archaeological sites. As indicated on page 16 of the EA, the project area was surveyed, and no eligible sites were found; therefore, no effects to eligible heritage and cultural resources are anticipated to occur as a result of implementation of the Selected Alternative. Additionally, as stated in the Design Criteria (**Appendix A**), if undocumented historic and/or prehistoric properties are discovered during ground disturbing or planning activities associated with construction, they will be treated as specified in 36 CFR § 800.11 concerning Properties Discovered During Implementation of an Undertaking.

9) Consideration of the degree to which the action may adversely affect an endangered or threatened species or its critical habitat.

There will be no effect to any threatened, endangered, or proposed species, except for Canada lynx. For Canada lynx, the determination is "may affect, not likely to adversely affect."

The Selected Alternative will result in vegetation clearing in potential Canada lynx habitat, which may affect but is not likely to adversely affect Canada lynx and lynx habitat. It is expected that the habitat loss and/or reductions in habitat capability within the project area are insignificant and discountable and will not preclude lynx movement and foraging capability across the ski area, nor across the Lynx Analysis Units, considering that lynx habitat within the project area is structurally influenced by management activity at Purgatory. The heavily modified landscape of the project area coupled with consistently high levels of human activity make presence by Canada lynx in the project area likely to be temporary and unpredictable. The Selected Alternative is consistent with most but not all applicable lynx-related provisions of the Southern Rockies Lynx Management Direction and the associated Final Environmental Impact Statement and Record of Decision. The Biological Assessment concluded that overall, the small scale of the Proposed Action when compared to the expansive extent of quality lynx habitat that surrounds Purgatory on three sides, constitutes an insignificant and discountable impact to lynx habitat effectiveness at the scale of an individual lynx home range. The Selected Alternative is consistent with Section 7(d) of the Endangered Species Act (ESA). Record of the U.S. Fish and Wildlife Service (USFWS), concurrence under ESA Informal Section 7 Consultation is contained in the project file.

10) Consideration of whether the action violated federal, state, or local laws or requirements imposed for the protection of the environment.

I have reviewed in the EA, the Biological Assessment/Biological Evaluation, and the project file and have determined that no federal, state, or local laws, regulations, or requirements for protection of the

environment will be violated with implementation of the Selected Alternative, including: USFWS's Endangered Species Act Informal Section 7 Consultation; U.S. Army Corps of Engineers' Clean Water Act 404 Permit; State of Colorado's Stormwater Management Plan and Burn Permit; Executive Order 11990, Protection of Wetlands; and Executive Order 11988, Floodplain Management.

Findings Requirement by Other Laws and Regulations

This decision is consistent with the 2013 Forest Plan as required by the National Forest Management Act of 1976 and all other laws, regulations, and policies that govern Forest Service actions. Site-specific Design Criteria (**Appendix A**) and 2013 Forest Plan standards and guidelines will be applied, as appropriate, to meet 2013 Forest Plan goals and desired conditions. While the Forest Service assumes no responsibility or enforcing laws, regulations, or ordinances under the jurisdiction of other governmental agencies, Forest Service regulations require permittees to abide by applicable laws and conditions imposed by other jurisdictions. The project was designed to conform to the 2013 Forest Plan and all other laws, regulations, and policies, including: USFWS's Endangered Species Act Informal Section 7 Consultation; U.S. Army Corps of Engineers' Clean Water Act 404 Permit; State of Colorado's Stormwater Management Plan and Burn Permit; Executive Order 11990, Protection of Wetlands; and Executive Order 11988, Floodplain Management.

Opportunity to Object the Proposed Project

This project has been subject to a 45-day objection period pursuant to 36 CFR § 218.8 (Project-level components objection) and 36 CFR § 219.54 (Forest Plan amendment objection). The objection period closed May 15, 2018. No objections were received.

Implementation Date

This project may be implemented immediately.

Contact

For additional information concerning this decision, contact:

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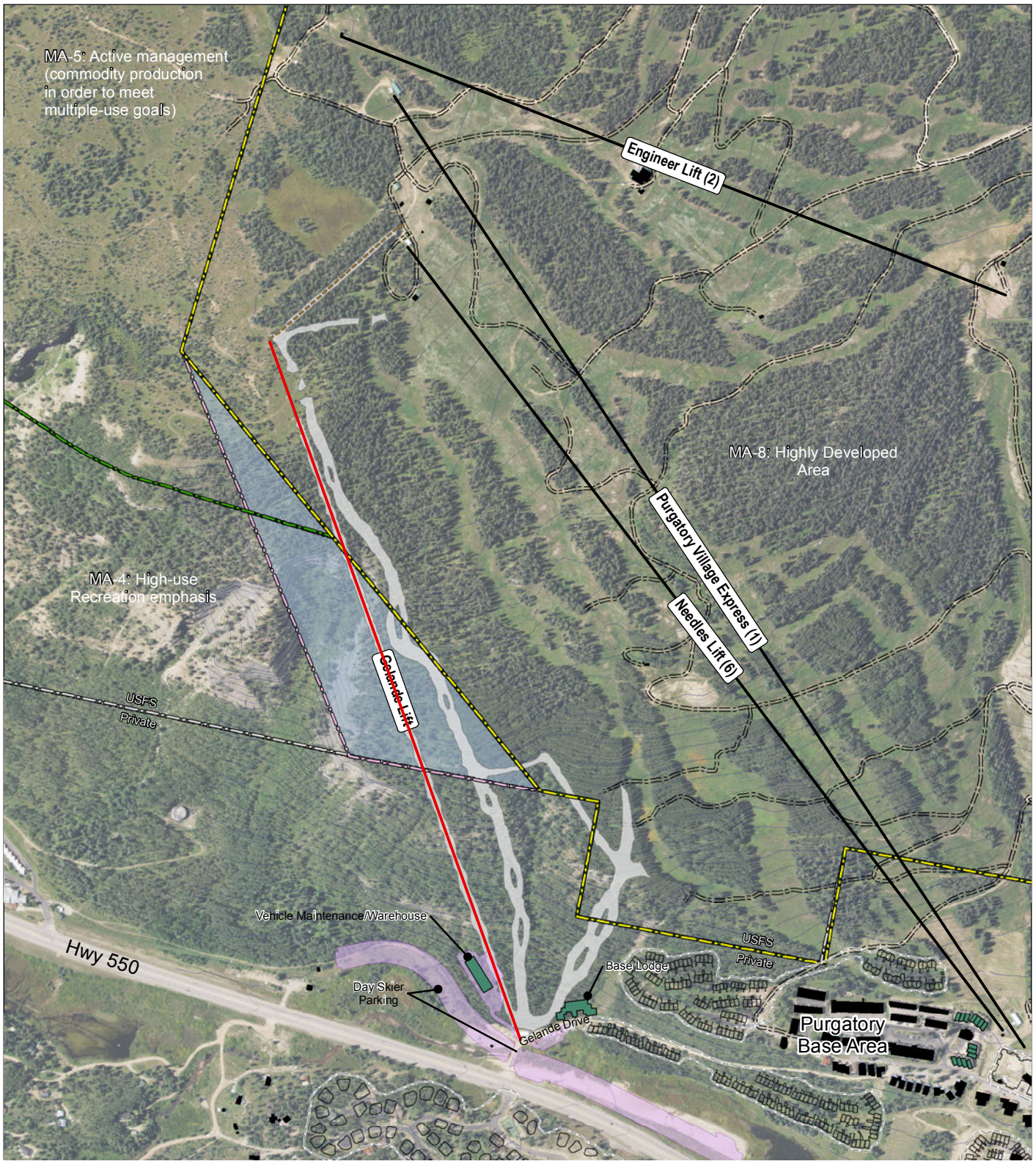
Kara L Chadwick — May 25, 2018

KARA CHADWICK
Forest Supervisor
San Juan National Forest

Date

Selected Alternative Figure



Gelandé Chairlift, Terrain Project, and Boundary Adjustment: Selected Alternative

Existing

- Private Land Boundary
- Purgatory SUP Boundary
- Management Area Boundaries
- Lifts
- Mountain Roads

Approved

- Lifts
- Access Road
- Trail Clearing
- SUP Boundary Adjustment
- Management Area Amendment (26 acres)

Previously Approved Development (Private Land)

- Existing Buildings
- New Buildings
- Parking
- Developed Areas

San Juan National Forest
Columbine Ranger District

March 2018, Prepared by:
SE GROUP

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Appendices

Appendix A. Design Criteria

Appendix A. Design Criteria

Table 1. Design Criteria and Best Management Practices

Scenery
Choose structure design, scale, and color of materials, location, and orientation to meet the Visual Quality Objective of the project area.
Stumps should be cut as low as possible to the ground to avoid safety hazard and lessen scenery impact.
All structures, towers, and other above ground features will meet color guidelines. Bright colors are inappropriate for the forest setting. The colors should be muted, subdued colors because they blend well with the natural color scheme. The FSH No. 617, "National Forest Landscape Management for Ski Areas, Volume 2, Chapter 7," refers recommended colors for ski areas.
All structures, towers, and other above ground features will meet reflectivity guidelines. This includes any reflective surfaces (metal, glass, plastics, or other materials with smooth surfaces), that do not blend with the natural environment. They should be covered, painted, stained, chemically treated, etched, sandblasted, corrugated, or otherwise treated to meet the solar reflectivity standards. The specific requirements for reflectivity are as follows: Structures with exteriors consisting of galvanized metal or other reflective surfaces will be treated or painted dark non-reflective colors that blend with the forest background to meet an average neutral value of 4.5 or less as measured on the Munsell neutral scale.
Trees should be retained, where possible, to provide species and size diversity, maintain forest cover, and screen facilities.
Avoid straight edges where removing trees. The edges of the tree clearing areas, where the vegetation is removed, need to use a variable density cutting (feathering) technique applied to create a more natural edge that blends into the existing vegetative, where possible. 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.
Utilities must be buried, and the ground surface must be revegetated when not in a road.
All facilities including trails and signs must meet Forest Service Accessibility Guidelines. Forest Service Outdoor Recreation Accessibility Guidelines: https://www.fs.fed.us/recreation/programs/accessibility/
Public Health and Safety
Any burning will be in accordance with the Colorado Department of Health, Air Pollution Control Division, and City and County requirements, and an approved Burning Plan.
Cultural
If undocumented historic and/or prehistoric properties are located during ground disturbing activities or planning activities associated with approved construction activities, all construction in the immediate vicinity would cease and they would be treated as specified in 36 CFR § 800.11 concerning Properties Discovered During Implementation of an Undertaking.
Vegetation
General
Where possible, utilize existing roads to reduce impacts to vegetation and soils. Where machinery must leave roads, identify and utilize the most direct and least invasive path feasible to reduce impacts to vegetation.
Avoid trampling of native plant communities through designation of formal paths in heavy use areas, and other appropriate means.
Adequately designate leave trees and trail clearing limits to avoid mistakes in clearing limits during construction.
Areas cleared of vegetation alongside trails should be fully reclaimed after construction, where possible.
Implement Forest Service approved revegetation guidelines to all disturbed sites.
Effective ground cover (mulch) upon completion of ground disturbing activities would meet minimum level of the pre-treatment habitat type.
Consider the health and windthrow potential of residual trees as the major selection factors, when possible, during the selection of trees for removal.
Reseed all disturbed areas with a Forest Service approved native seed mix.

Table 1. Design Criteria and Best Management Practices

Mark trees to achieve a “soft edge”, keeping smaller trees near the edge and progressing toward larger trees toward the middle. Feather out unit edges to reduce the strong contrast between ski trails/chairlift lines and undisturbed areas.
Maintain the integrity of naturally occurring tree clumps when marking and cutting edges.
Stumps and slash must be disposed of in a manner approved by the Forest Service. Stumps should be flush cut; however, in some cases stumps may be buried, burned, or hauled off the National Forest. Slash may be chipped, burned, or lopped and scattered based on the type and volume of slash, site specific conditions, and other resource objectives.
Burying of wood products will be considered on a case by case basis, and only after all other alternatives have been considered. Burying will not be permitted in roads, or on steep slopes where the proper density of compaction is unobtainable or there is a danger of eventual soil movement.
Felled trees, slash, and any other clearing debris will not be allowed to accumulate outside of trail limits unless specifically authorized by the Forest Service. Boulders should be blasted, buried or removed off the National Forest. They should not be stockpiled.
All wind-thrown or green cut spruce that will not be removed within nine months of being cut need to be de-barked down to 4 inches in diameter. At least 65% of the circumference of the tree stem needs to be de-barked and the log rolled so that the de-barked side is down. When possible move de-barked tree stems and pieces smaller than 3 inches diameter into a sunny location for maximum drying.
Noxious Weeds
Cleaning vehicles and equipment on a regular basis is the most effective and least expensive method of noxious weed control. Power-wash (high pressure cleaning) equipment, trucks, and off-road vehicles of mud, dirt and vegetation, including undercarriage and tires, prior to moving into weed-free areas. Clean equipment prior to entering NFS lands. If equipment is operating in or has been stored in areas with known weed infestations, equipment should be cleaned on site, prior to leaving the area.
Provide training to both management and field workers in the identification of noxious weeds in all stages of growth, the importance of noxious weed control, and the measures available to minimize their spread.
Minimize soil disturbances in weed infested areas whenever possible.
During project planning and implementation, identify and use weed-free staging areas for equipment.
Identify existing infestations of noxious weeds along access roads, in the vicinity of the project area, and within the area of proposed ground disturbance prior to the commencement of a project.
Pretreatment of existing infestations with approved herbicides within the project area will be conducted prior to project implementation. Herbicide choices and application rates for treatment are available from the District/Forest Weed Program Manager. Use of approved herbicides for controlling noxious weeds will conform to current Forest Service specifications. All herbicides will be approved in writing by the Forest Service.
Avoid moving weed-infested earth, gravel, or other fill materials into weed-free areas. If used, imported fill must come from weed-free sources. Inspect borrow areas and gravel pits on a regular basis and keep them weed-free.
Minimize contact with roadside sources of weeds that could be transported to other areas while moving construction equipment around the mountain.
Employ excavation techniques that conserve native topsoil, stockpile topsoil, and replace topsoil to its original position when infilling disturbed areas.
Re-establish vegetation on all disturbed ground immediately to minimize weed-seed germination and spread.
“Rough up” soils and cleat in exposed soil surfaces and mulches so that broadcast seed/mulch is held on the slopes. Do not back blade disturbed areas smooth. Compacted areas should be loosened prior to revegetation.
All disturbed ground will be revegetated with native plant species. Utilize seed mix approved by the Rangeland Management Specialist and certified to be free of weed species. Seed mixes that incorporate native plant species similar to those within the project area are desirable. Any mulch used in revegetation efforts must be certified to be free of weed species. Use of wood and other non-straw fibers (i.e., coir, jute, or coconut) mulch and erosion control materials would help meet this objective.
Monitor areas of previous disturbance on a regular basis for success of past revegetation efforts. If revegetation has not been effectively established within one season, aggressively re-seed and re-mulch the area. If necessary to achieve sufficient growth, consider organic soil amendments (manure, compost, urea, etc.) to accelerate the process. Monitor effectiveness of re-vegetation seed mixes and alter seed mix (coordinate with Forest Service) as necessary to achieve aggressive re-vegetation of disturbed sites.
Monitor all revegetated sites for new weed infestations. Aggressively treat weeds within newly re-vegetated areas. Treat populations adjacent to newly disturbed areas prior to reseeding.

Table 1. Design Criteria and Best Management Practices

Minimize disturbance of roadside vegetation whenever possible. Retaining native vegetation along roadsides is a primary factor proven to limit the spread of weeds.
Avoid re-entry or additional ground disturbance whenever possible in disturbed areas until vegetation (native or revegetation seed-mix) has been re-established.
The use of road stabilizers can reduce the need for grading and road maintenance, which spreads weeds. Avoid stabilizers that can kill native grasses and forbs, allowing weedy species to colonize roadsides.
Re-seed and re-mulch road shoulders and berms following major grading or water bar installation and maintenance.
Wildlife
Surveys may be conducted prior to construction to avoid or minimize impacts to certain species, unless the Responsible Official or Forest Service biologist determines surveys to be unnecessary. If project construction activities occur prior to August 15, surveys could be conducted for American peregrine falcon and northern goshawk.
Surveys for active raptor nests could be conducted by qualified biologists prior to the construction season. To allow for successful nesting and young rearing, construction timing limitations and/or distance buffers may be applied, depending on site-specific conditions. If active raptor nests are located within the project area, the project proponent will work with the Forest Service biologist to develop appropriate mitigation measures.
To reduce the risk for human/wildlife conflicts in areas where food or trash could be present, all trash containers should be bear proof and any locations that have food products stored outside of a building should be stored in a bear-resistant manner.
All construction activities should be confined to daylight hours, excluding emergencies.
Construction workers should not be allowed to bring dogs on site during construction.
Purgatory is encouraged to inform the public on how to avoid and minimize negative human/wildlife conflicts and conflicts between recreational user groups, including hunters.
Soils
During construction, maintenance and operations, stockpile top soil to maintain organic matter and re-spread over dozed areas where feasible and warranted.
Excavation equipment shall be track vehicles unless project site allows for rubber tired equipment.
Vehicle access to routine projects is restricted to existing roads, old roads (if not obliterated or otherwise revegetated), new roads approved along with the Proposed Action and trails unless other options will produce less long-term sediment. Reconstruct for long-term soil and drainage stability. Motorized vehicles should not travel cross-country. Cross-country travel needs approval prior to activity.
An Access Plan will be made a part of the summer construction plan and may be included within other plans such as Timber Removal Plan. Operate heavy equipment for treatments only when soil moisture is below the plastic limit or protected by at least 1 foot of packed snow or 4 inches of frozen soil. Summer access to tundra environments at or above timberline will be limited to foot and helicopter travel only. Any other necessary access will be considered on a case by case basis.
Avoid, minimize, or mitigate adverse effects to soil, water quality and riparian resources by controlling soil erosion, erosion of trail surface materials, and water quality problems originating from construction, maintenance, and use of nonmotorized trails.
Avoid sensitive areas, such as riparian areas, wetlands, stream crossings, and unstable areas to the extent practicable.
Design, construct, and maintain trail width, grades, curves and switchbacks suitable to the terrain and designated use.
Install and maintain suitable drainage measures to collect and disperse runoff and avoid or minimize erosion of trail surface and adjacent areas.

Table 1. Design Criteria and Best Management Practices

Prior to construction, a detailed site erosion control plan will be prepared and agreed upon by Forest Service and Purgatory staff. This plan shall include the following components: • Silt fences, straw bales, straw wattles, and other standard erosion control BMPs shall be employed to contain sediment onsite. • Jute-netting or appropriate erosion-control matting on steep fill slopes (i.e., land with a slope angle of 35% or greater) will be utilized to protect soils and enhance conditions for vegetation re-establishment. Biodegradable netting (erosion control blankets and matting) should be used; netting should be free of persistent plastic/polypropylene materials. • Promptly revegetate disturbed areas. Seed mixtures and mulches will be free of noxious weeds. To prevent soil erosion, non-persistent, non-native perennials or sterile perennials may be used while native perennials become established. The Forest Service must approve the seed mixtures prior to implementation, unless previously approved seed mixes are employed.
Ensure proper drainage, rip compacted areas, and apply a Forest Service-approved seed mix and organic soil amendments if necessary to facilitate revegetation.
Vegetative buffers will be maintained adjacent to intermittent or perennial drainages and wetlands, to the extent possible. Where avoidance of the vegetative buffer is not possible, disturbance will be minimized.
Return slash and native organic litter to site, apply imported soil organic matter, and use soil fertility to restore site organic matter and nutrients.
Areas determined to have been compacted by construction activities may require mechanical subsoiling or scarification to the compacted depth to reduce bulk density and restore porosity.
Prior to approved construction activities on NFS lands, Purgatory would prepare the following plans for Forest Service approval: • Grading • Erosion control • Pre-construction erosion control/drainage management plans • Post-construction revegetation and rehabilitation plans
Do not encroach fills or introduce soil into streams, swales, lakes, or wetlands. Install sediment waddles, sediment fencing, retention basins, or other applications before ground-disturbing activities begin. Favor applications that maintain functionality without maintenance, such as sediment retaining wattles. Service sediment retention applications before leaving the site and remove non-natural and non-biodegradable materials. Favor applications that use natural or biodegradable materials that can be left on-site. Maintain a 100-foot buffer from all fens and wetlands and 50 feet from perennial and ephemeral streams.
Watershed
In the event of a spill, the Contractor must abide by all applicable rules and regulations with respect to reporting requirements and cleaning up the spill. The Contractor must also follow any additional procedures required by federal, state, or local agencies. All costs due to spills and spill clean-up must be assumed by the Contractor. All clean-up and other spill related activities must be completed by the Contractor.
For grading projects greater than 1 acre, ensure that grading and erosion control plans meet the basic requirements for stormwater permitting through the State of Colorado Stormwater Management Program. Portray nearby wetlands and streams on grading plans. Also, show any BMPs or erosion control measures that would be used to protect streams and wetlands.
For projects that involve grading, define grading limits on the ground before construction by placing wattles, sediment fence, construction fence, or other physical barrier along the perimeter of the area to be graded. Ensure that all grading is confined within the specified grading limits.
For ground-disturbing activities near perennial and intermittent streams, and ephemeral draws, minimize Connected Disturbed Area by ensuring that graded areas, roads, road ditches, and other disturbed areas drain to undisturbed soils rather than directly to streams and ephemeral draws. Manipulate drainage from disturbed areas as necessary using natural topography, rolling dips, water bars, ditch-relief culverts, etc., to disconnect disturbed areas from streams. (Maintain a buffer of 50 feet from live water).
For logging operations, retain live and dead trees within 100 feet of perennial and intermittent streams, except within designated stream crossings. Locate all landings and skid trails at least 100 feet away from perennial and intermittent streams. Do not skid logs on sustained slopes steeper than 40%. Obliterate skid trails after operations are complete by pulling slash on skid trails; building water bars where needed; placing barriers within skid trails to prohibit mechanized and motorized use; and seeding skid trails with approved seed mix, where necessary, to establish vegetation. A detailed plan for logging practices and methods (including disposal methods, any temporary roads, log decking locations, etc.) will be established prior to implementation in the summer construction plan.

Table 1. Design Criteria and Best Management Practices

Clearly mark all wetlands within the vicinity of any ground disturbing activities or tree felling and ensure that all equipment operators are aware of their presence. Operate heavy equipment for land treatments only when soil moisture is below the plastic limit or protected by at least 1 foot of packed snow or 4 inches of frozen soil.
Outslope low standard roads to shed water rather than concentrating water on the road surface or in ditches.
Do not install culverts or conduct ground-disturbing activities near streams during spring runoff, or during periods of heavy precipitation.
Do not locate roads, trails, or other disturbed areas on slopes that show signs of instability, such as slope failure, mass movement, or slumps.
For projects that would increase road traffic, or require road use by heavy construction equipment, apply road surfacing near stream crossings as needed to harden the road surface and minimize sediment delivery to streams.
Do not encroach fills or introduce soil into streams, swales, lakes, or wetlands. Install sediment wattles, sediment fencing, retention basins, or other applications before ground-disturbing activities begin. Favor applications that maintain functionality without maintenance, such as sediment retaining wattles. Service sediment retention applications before leaving the site and remove non-natural and non-biodegradable materials. Favor applications that use natural or biodegradable materials that can be left on-site.
Keep all debris generated by project activities out of ditches, swales, and drainage channels.
Halt construction activities during periods of heavy precipitation or when soils are muddy and prone to rutting and compaction.
Prior to implementation, submit grading plans for all new and improved road segments, and for construction of the trail, for review and authorization by the SJNF. At a minimum, these documents should meet the basic requirements for stormwater permitting through the State of Colorado Stormwater Management Program.
Prior to construction, clearly flag tree clearing and/or grading limits.
Avoid soil disturbing activities during periods of heavy rain or excessively wet soils.
Make cuts, fills, and road surfaces resistant to erosion (MM-9 Design Criteria).
For projects involving excavation and/or grading, stockpile topsoil so that it may be used for revegetation projects.
Construction practices and operations should not introduce soils, debris, or other pollutants into streams, channels, swales, or wetlands. BMPs adequate for erosion and sediment control should be installed before ground-disturbing activities begin. If natural or biodegradable materials are not used and left on site, all non-natural and non-biodegradable materials should be removed at the end of construction.
Properly compact fills (MM-11 Design Criteria).
Where appropriate, revegetate disturbed terrain (including staging areas) immediately after completion of grading using Forest Service-approved, native seeds. Install temporary BMPs for sediment and erosion control until planted vegetation provides erosion control (MM-11 Design Criteria).
Where possible, utilize existing roads and trails to access construction sites.
To the extent possible, avoid operating heavy equipment on slopes steeper than 30%.
Inspect and maintain BMPs a minimum of twice annually: (1) in the spring, as soon as conditions allow; and (2) in the fall season, before snow covers the ground.