

Reference Number	Derby Mesa Project Design Features
Botany	
#1	<p>Where Threatened (T), Endangered (E) or Sensitive (S) plant species and plant species of Local Concern (LC) are found in the project area the following will apply:</p> <p><u>Buffering</u> The protection buffers would be a minimum of 50 feet in radius from the identified population boundaries. Exclude mechanized equipment from identified buffered sites. Exclude tree felling from within identified buffered sites. Fell trees away from identified buffered populations. Do not place or burn slash piles or broadcast burn slash in buffered areas. It is not required to move existing roads if they occur within the 50 feet buffer of the LC species.</p> <p><u>Over the snow</u> Over-snow operations, using the BMP will provide adequate protection for these occurrences.</p>
#2	Landings, temporary roads, burn scars from pile burning, and borrow sites will be re-vegetated with native plant species. Utilize seed mix approved by the Forest Botanist 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 re-vegetation efforts must be certified to be free of weed species.
Safety/Recreation	
#1	National Forest System roads and trails shall be posted with warning signs and traffic control devices shall be employed in accordance with the “Manual on Uniform Traffic Control Devices” (MUTCD) as needed.
#2	Flaggers, closure gates or special orders are required when harvesting operations occur within two tree lengths from an open Forest System or County Road. Roads may be closed to recreationists in active units. The USFS would prepare special orders and news releases regarding the closures and signs (meeting USFS standards) will be posted on the ground at major access points.
#3	Hauling, road maintenance and road construction will be prohibited on federal holidays.
#4	To minimize conflicts with recreational traffic road maintenance, road reconstruction, and log hauling activities shall be prohibited the opening day of each big game season – including archery and muzzle loader seasons.
Engineering	
#1	Ground based operations, including felling, skidding and hauling will be suspended during periods of precipitation that may result in road damage (repair required is beyond routine road maintenance) or contribute to possible sediment discharges into stream channels. Hauling shall be suspended until the road sub-grade can adequately carry loaded log trucks and road damage will not occur.
#2	Road maintenance, improvements, reconstruction, and road decommissioning activities require adequate surface drainage and erosion control implementation within and adjacent to all disturbed areas. Conduct activities during dry-field conditions – low to moderate soil moisture levels. For those road segments immediately adjacent to streams or where the road fill is near the wetted stream, install sediment control barriers (e.g. silt fencing) between the project and the stream. Minimize disturbance of existing vegetation in ditches and at stream crossings to the greatest extent possible. Site specific erosion control plan(s) shall be developed and approved for ground disturbing activities where the potential to impact sensitive areas and resources of concern exists. Sensitive areas and resources of concern may include but are not limited to streams, waterbodies, floodplains, cultural, etc.
#3	Borrow sources shall be located in areas with minimal erosion potential. The maximum quantity of material excavated at each borrow source location shall not exceed 250 cubic yards (CY). Erosion control shall be implemented, and all borrow sources shall be restored upon exhaustion of the source.
#4	Stream channel culvert installation and removal may require development and approval of site specific plans. These plans may include but are not limited to sediment and erosion control, dewatering, stream channel diversions, channel design, and temporary isolation of fish/ aquatic species during construction activities. For culvert removal projects, restore natural drainage patterns and when possible promote passage of all fish species and life stages present in the area. Evaluate channel incision risk and construct in-channel grade control structures when necessary.
#5	Road and trail decommissioning (closure) treatments may include but are not limited to; blocking entrances, de-compacting road surfaces (where necessary to restore hydrologic function), removing

	unstable cut and fill slopes (where necessary to restore hydrologic function), outsloping roadbeds, drainage features (waterbars, dips, etc.), re-contouring road prisms, removing culverts, restoring stream channels, placing vegetation, stumps and slash on disturbed areas, seeding and mulching. Dispose of waste material in stable sites out of the flood prone area. Waste material, other than hardened surface material (asphalt, concrete, etc.), may be used to restore natural or near-natural contours. Drainage features should be spaced to hydrologically disconnect road surface runoff from stream channels. On slopes greater than 5%, and when soil conditions require, place water diversion structures no further than 200 feet apart, unless otherwise agreed to in writing. For road treatment segments within riparian areas, contour the affected area to mimic natural floodplain contours and gradient to the greatest degree possible. Seed all disturbed areas using locally appropriate native seed mix approved by WRNF Ecologist/Botanist.
#6	System roads will be protected. Logging slash and debris will be promptly removed from roads and appurtenances. Culvert inlets and outlets will be protected using contract provisions. Damage to roads and appurtenances as a result of project activities shall be repaired promptly, and prior to equipment being moved away from the current project area.
#7	The USFS will work cooperatively with State, County and local government to inform our partners and the public of road closures, road work schedules, hauling schedules, and other important information that might affect travel times and safety within the project area.
Fuels	
#1	Restrict landing piles to 7068 ft ³ or current CO APCD specifications (smoke permit limits efficient burning to a maximum pile size of 45'x20'x15').
#2	Follow all applicable pile burn requirements specified in the Colorado APCD smoke permit and/or WRF East Zone programmatic piles burn plan.
#3	Slash can be treated through whole-tree logging or lop and scatter. However, utilize lop and scatter over whole-tree yarding to the extent that the appropriate equipment is available and funding permits. Lop and scatter is the preferred method to create an adequate fuel bed for broadcast burning and to promote beneficial soil properties.
#4	If piling of slash is completed, all machine piles shall be located at least twice their length from residual timber to minimize damage. All piles need to be free of dirt and other non-organic material for better consumption and cleaner emissions.
#5	Site specific silviculture prescriptions will specify minimum and maximum average slash depth for harvest units. This range of conditions will consider fuels reduction objectives near infrastructure, forest regeneration, wildlife, and soils.
Vegetation/Silviculture	
#1	Logging Operations, including felling, bucking, skidding, decking hauling, road maintenance and snow plowing may occur at any time during the calendar year except when explicitly restricted.
#2	The USFS will monitor for wind throw and noxious weeds while conducting 1 st , 3 rd , and 5 th year stocking surveys. If wind throw or noxious weeds are observed, treatments will be developed based on the extent and species present.
Wildlife	
#1	Wildlife crews will designate cavity trees while conducting surveys in the summer field season. Cavity trees will be marked following proper marking guidelines. If cavity trees are in clusters, then the wildlife biologist may recommend a no-disturbance buffer around the clusters, as well as if there is confirmed nesting. Avoid placing group openings where there are cavity trees.
#2	A 30-acre no-harvest buffer shall be centered on each active or inactive raptor nest site. If additional nests are found within the project area, the 30-acre buffer would be applied and any designated timber would be removed from the contract. Temporary roads and skid trails could be placed within the 30-acre buffer provided: <ul style="list-style-type: none"> • no other reasonable location could be established, • tree cutting to create the temporary road or skid trail would be incidental in nature and not markedly change the overall stand structure within the buffer, • nest trees would not be harvested, • temporary roads would only be approved by the Sale Administrator or Forest Service Representative after consulting with the District Wildlife Biologist and District Ranger. • The timing restriction listed in DF #3 would apply to the construction and use of any temporary

	roads or skid trails within this nest buffer area. Depending on stand conditions and/or topography, any deviation of the polygon sizes and seasonal periods in this criterion would be done in coordination with a Forest Service Wildlife Biologist.
#3	To protect active northern goshawk and other raptor nesting sites, falling, skidding, loading, and road construction (or reconstruction), should be discontinued between the following dates: <ul style="list-style-type: none"> • Northern Goshawk, Sharp-shinned Hawk, and Cooper’s Hawk: March 1 to August 15 within ½ mile of an active nest • Red-tailed hawk: February 15 to July 15 within 1/3 mile of an active nest • Flammulated owl/northern saw-whet owl: March 1 to August 15 within ¼ mile of an active nest • Boreal owl: February 1 to July 31 within ¼ mile of an active nest This includes future nest sites that are found during subsequent surveys. Exceptions to these restrictions may be waived by the Sale Administrator or Forest Service Representative after consultation with the District Wildlife Biologist and District Ranger. Depending on stand conditions and/or topography, any deviation of the polygon sizes and seasonal periods in this criterion would be done in coordination with a Forest Service Wildlife Biologist.
#4	During broadcast burning, avoid potential Brewers sparrow habitat, as identified in the Wildlife Biological Evaluation.
Fisheries	
#1	Proposed prescribed fire and related activities would avoid riparian areas by maintaining an approximate 100-foot buffer from stream channels.
Scenery	
#1	Blend unit boundaries with natural landscape features, such as natural meadows or openings and rock outcrops where possible. Avoid geometric shapes. Straight line edges should also be avoided where cutting units share a boundary with Colorado Roadless Areas or designated wilderness areas.
#2	Do not leave unnatural appearing rings of trees adjacent to openings. Any painted trees which leave a strip along meadow edges should be removed.
#3	Unit boundary paint shall face away from open system roads and trails or be removed or covered with black paint after the sale is complete.
#4	Stumps should be cut as low as possible to the ground. All stumps should be less than 12” from the ground level.
#5	All equipment and construction debris (man-made debris and trash) brought on-site shall be removed from the site at sale completion.
#6	When establishing borrow sources, minimize the disturbance of existing vegetated areas, which aren’t part of the borrow source, as much as possible during the excavation.
#7	When establishing borrow sources, use construction techniques that facilitate revegetation of cut and fill slopes (e.g. leave in roughened condition). Any cut and fill slopes shall be graded to conform the site to the adjacent terrain. Vary the pitch of cut and fill slopes. This involves slope rounding in both vertical and horizontal form as a more natural extension of landform surface configurations.
#8	When the borrow source is depleted and will not be used in the future, the shape of the reclamation for the borrow source should be designed and shaped to blend with existing topography. Design the re-contouring in a scale which is characteristic of the surrounding landscape, borrowing directional emphasis of form and line from natural features. Blend soil disturbance into natural topography to achieve a natural appearance and reduce erosion.
Noxious Weeds	
#1	Off-road equipment shall not be moved into project area without having first taken reasonable measures to make sure it is free of soil, seeds, vegetative matter, or other debris that could contain noxious weed seeds. Equipment may also require inspection prior to moving it from areas infested with invasive species of concern to areas free of such invasive species.
#2	Pre-treat existing infestations within, near, or along travel routes prior to implementing the proposed project. This will help to eradicate existing weeds and/or suppress seed production.
#3	Monitor Disturbed areas for a minimum of four years after project completion and treat any new infestations in a timely manner.
Water Resources	
#1	Minimize Connected Disturbed Area by ensuring that roads, road ditches, and other disturbed areas drain

	to undisturbed soils rather than directly to streams. Manipulate drainage from disturbed areas as necessary using natural topography, rolling dips, waterbars, ditch-relief culverts, etc., to disconnect disturbed areas from streams.
#2	Retain the average per-acre levels of coarse woody debris (CWD) summarized in Table 2-1 in the WRNF Forest Plan.
#3	Retain live and dead trees within 100 feet of perennial and intermittent streams, lakes, and inventoried ponds, except within designated stream crossings, or as otherwise specified to protect cutthroat trout.
#4	Locate all landings and skid trails at least 100 feet away from perennial and intermittent streams.
#5	Keep heavy equipment out of streams except to cross at designated points, build crossings, or do restoration work, or if protected by at least 1 foot of packed snow or 2 inches of frozen soil.
#6	Design stream crossings to withstand floods as follows: Design Life (years): 1 2 5 10 20 50 Design Flood (years): 10 10 25 50 100 200
#7	Size culverts to easily pass sediment and debris transported by the stream to be crossed. Do not use culverts less than 18" in diameter to cross any stream channel.
#8	Designate the locations of stream crossings on temporary roads. Install stream crossings on straight and resilient stream reaches, as perpendicular to flow as practicable.
#9	Add or remove rocks, wood, or other material in streams or lakes only if such actions maintain or improve stream health. Avoid altering the stream bed and banks and maintain the natural character of the stream.
#10	Keep ground vehicles out of wetlands unless protected by at least 1 foot of packed snow or 2 inches of frozen soil. Do not disrupt water supply or drainage patterns into wetlands.
#11	Do not skid logs on sustained slopes steeper than 40%.
#12	Temporary roads will be built to shed water rather than concentrating water on the road surface or in ditches. Where practical, and as seasonal conditions warrant, install cross drains [in roads] to disperse runoff into filter strips and minimize connected disturbed areas. Make cuts, fills, and road surfaces strongly resistant to erosion between each stream crossing and at least the nearest cross drain. Revegetate using certified local native plants as practicable; avoid persistent or invasive exotic plants.
#13	Do not install culverts during spring runoff, or during periods of heavy precipitation.
#14	Do not locate roads, landings, or skid trails on slopes that show signs of instability, such as slope failure, mass movement, or slumps.
#15	Locate and construct log landings in such a way as to minimize the amount of excavation needed and to reduce the potential for soil erosion. Design landings to drain water to undisturbed soils rather than retaining water, or draining to streams. After use, treat landings to disperse runoff, prevent surface erosion, and encourage revegetation.
#16	Minimize sediment delivery to streams from temporary roads. Wherever stream crossings are required, use outsloping, rolling dips, waterbars, or ditch-relief pipes to drain water and sediment to undisturbed soils outside the WIZ rather than directly to streams.
#17	For re-construction of Forest System Roads, apply road surfacing near stream crossings as needed to minimize sediment delivery to streams.
#18	For temporary roads that will be operated for more than one season, install additional waterbars near stream crossings at the end of the operating season to prevent sediment delivery to streams during the off-season.
#19	Keep logging slash and debris out of ditches and drainage channels.
#20	Reclaim disturbed areas promptly when use ends to prevent resource damage and invasion of noxious weeds. Rehabilitate temporary roads when project is complete by: Removing all culverts; Removing all fill in stream channels, and re-contouring stream banks to the original geometry; Installing additional cross drains and/ or outsloping to reestablish natural drainage patterns; Ripping and seeding of road segments located within 100 feet of streams; Placing additional waterbars as needed.
#21	Obliterate skid trails after operations are complete by pulling slash on skid trails; building waterbars 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.
#22	Manage land treatments to limit the sum of severely burned and detrimentally compacted, eroded, displaced land to no more than 15% of any activity area. Specifically: Designate the location and size of landings and major skid trails; Minimize the length of temporary road approved to meet objectives; Rip all landings to a minimum depth of 6 inches, unless a shallower depth is warranted and is agreed to in writing by the Forest Service and contractor.
#23	If machine piling of slash is done, conduct piling to leave topsoil in place and to avoid displacing soil into piles or windrows.
#24	Locate vehicle service and fuel areas on gentle upland sites at least 100 feet away from streams to prevent pollutants from contaminating water.
Soils	
#1	Avoid soil-disturbing actions during periods of heavy rain or wet soils. Operate heavy equipment within unit boundaries only when soil moisture is below the plastic limit, or protected by at least 1 foot of packed snow or 2 inches of frozen soil. Soil moisture exceeds the plastic limit if the soil can be rolled into 3mm threads without breaking or crumbling.
#2	Prior to implementation, the Forest Service must approve temporary roads, landings, and concentrated use-site locations to minimize potential damage to soils.
#3	Areas that are determined to have “highly” or “severely” unstable soils will be excluded from unit boundaries during layout.
Heritage	
#1	Establish a no-disturbance buffer around sites that are eligible to the National Register of Historic Places. For each eligible site, the District Ranger, with consultation with the FS Archaeologist, will determine the appropriate size of the buffer based on individual site characteristics and the type of project activity (e.g. broadcast burning, hand-felling, ground based logging, etc.) being implemented. If the no-disturbance buffer needs to be crossed to access other areas within the project, consult with a FS Archaeologist to ensure the sites integrity is maintained or restored at the completion of project work.
#2	The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during project implementation, work in that area must stop and the responsible agency’s Authorized Office be notified immediately (36 CFR 800.13). The Native American Graves Protection and Repatriation Act (NAGPRA), requires that if an inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice be made to the Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)). Further actions also require compliance under the provisions of NHPA and the Archaeological Resources Protection Act.
Lands	
#1	Survey corners, Forest Service boundary signs, and survey monuments will be protected during harvesting activities. Trees containing survey signs or monuments will be left unharvested.