

TIMBER SALE REPORT & APPRAISAL

GRATEFUL DEAD BEETLE SALVAGE

**Rio Grande National Forest
Saguache Ranger District
FY 2025**

Prepared by: Christa M. Gulaian Date: 2/24/2025

Christa Gulaian, Forester

Approved by: _____ Date: February 24, 2025

Tristram Post, District Ranger

SUMMARY OF RECOMMENDATIONS

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| <u>Net Volume (Appraised and Contract)</u> | |
| Total Nonsawtimber – Engelmann spruce nonsawtimber | 377 CCF |
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| Quadratic Mean DBH: | 11.5 inches |
| Average DBH: | 11.2 inches |
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| Treatment Acres: | 39.8 +/- 1.8 acres |
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| <u>Advertised Rates</u> | |
| Engelmann Spruce Nonsawtimber: | \$0.25/CCF |
| Total Sale Value: | \$94.25 |
| Minimum NFF Stumpage Distribution: | \$94.25 |
| Available Stumpage for KV or SSF: | \$0.00 |
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| Specified Road Reconstruction: | \$0.00 |
| Public Works Construction Cost: | \$0.00 |
| Road Completion Date: | N/A |
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| Required Slash Deposit: | N/A |
| Required Surface Rock Replacement Deposit: | N/A |
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| Total cost of KV work: | \$2,028.00 |
| Total KV Collections at Advertised Rates: | \$0.00 |
| Essential KV: | \$0.00 |
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| Funded SSF Collections at Advertised Rates: | \$0.00 |
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| Contract Period: | 2 Normal Operating Seasons |
| Termination Date: | 10/31/2027 |
| Normal Operating Season: | June 1 to October 31 |
| Method of Bidding: | Sealed bid |

DESCRIPTION

A. Location

The sale is located on the Saguache Ranger District of the Rio Grande National Forest in Saguache County, Colorado.

The legal description is: New Mexico Principal Meridian, T.43N., R.5E., sec. 7. Access from Saguache, Colorado is: take US Highway 285 out of Saguache for approximately 17.5 miles to the intersection of County Road G. Continue on County Road G for approximately 2.0 miles to the intersection of 41G. Take 41G for approximately 10.1 miles to NFSR 652. Take NFSR 652 for approximately 2.0 miles to NFSR 652.1A. Take NFSR 652.1A for approximately 3.2 miles to the beginning of the sale area.

B. Land Status

All harvest units are located on National Forest System Lands where timber harvest is allowed per the 1996 Rio Grande National Forest Revised Land and Resource Management Plan (Forest Plan).

C. Basis for Selecting Area

This area was identified for harvest to salvage dead and dying trees before commercial value is lost, provide wood products to benefit the local and regional economies and ensure the area is properly stocked with commercially valuable species at densities conducive to providing a sustained yield of forest products. The area is located within Forest Plan Management Area Prescription 5.13- Forest Products.

D. Appraisal Points

This sale was appraised to Blanca Forest Products in Blanca, CO. This is consistent with direction from the Regional Office.

E. Silvicultural Prescription

The silvicultural prescription is salvage by overstory removal cut. All merchantable Engelmann spruce greater than or equal to 8" DBH will be harvested.

F. Unique Circumstances

A portion of existing temporary roads will remain open post-harvest; see contract provision CT5.35# "Closure of Temporary Roads" for more information.

CONDITIONS OF SALE

A. Planned Cutting Methods

The timber sale contract specifies tractor logging; traditional ground-based logging systems will be used to implement the silvicultural prescription.

Unit boundaries are marked in blue tracer paint and have the unit number painted facing into the unit, typically on at least every fifth boundary tree; see contract provision CT2.301# for more information.

B. Sale Area Improvement Needs (SAI)

The sale area improvement plan is not able to be funded at advertised rates (\$0.25/CCF) and will require supplemental funding to complete. The plan includes post treatment monitoring for all harvest units, and 1st and 2nd year noxious weed treatments.

C. Slash Treatment

Slash remaining within cutting units must be lopped and scattered to a height of three feet or less. Slash accumulated at the landing shall be consolidated into burnable piles that are free of dirt or other non-combustible debris. Approximately 10% of the slash piles created from the timber sale will remain on site for small mammal habitat. See provision CT6.7#.

D. Water Quality Protection and Erosion Control

Skid trails will be re-vegetated to stabilize soils. Skid trails are to be laid out to reduce erosion and will require agreement by the timber sale administrator. Skid trails must be at least 100 feet from all live streams except in areas previously identified by U.S. Forest Service personnel. Drainage structures will be required where erosion potential is high. All seed that is used will be certified noxious weed-free Subalpine seed mixture (CT6.601# and CT6.602#).

E. Relevant Resource Protection Measures

Resource protection measures and monitoring measures identified in the La Garita Hills Restoration Project EIS are listed and addressed below:

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| Timing of Operations |
| Winter logging is encouraged to reduce ground disturbance, disturbance to wildlife and wildlife habitat, and to minimize disturbance to potentially undocumented heritage resources; activities will cease as spring snow melt conditions dictate. <i>Winter logging will be utilized as conditions permit during sale operation activities.</i> |
| Public Safety |
| Roads used for vegetation treatment and log hauling would be maintained in accordance with the contract requirements. Temporary traffic control (in accordance with the Manual on Uniform Traffic Control Devices) would be utilized for roads open to public motor vehicle use. <i>See contract provisions BT5.3 (Road Maintenance) and BT6.33 (Safety) for information pertaining to road maintenance and traffic control.</i> |
| Caution signs notifying public of logging or burning activities will be prominently displayed at start of all open roads and all junctions. <i>See BT6.33 (Safety) for information pertaining to traffic control and safety signs.</i> |
| If log hauling occurs during dry periods (June to September) adjacent to private residences on the lower portion of County Road 41G, dust abatement may be required. Dust abatement may be applied up to ¼ mile along 41G adjacent to these residences; if needed. Coordinate dust abatement with Saguache County. <i>Dust abatement cannot be applied to non-forest system roads and therefore will not be applied to County Road 41G.</i> |
| Notify the public of logging activities, burning activities, or both through media such as local newspapers, radio, and the Forest website. <i>The sale administration team will coordinate with Public Affairs on purchaser's plan of operations. Burning activities will not occur.</i> |
| Any open system roads utilized for winter logging activities will provide for two-way traffic, either through width of plowing or frequent pull-outs. <i>CT5.36# "Snow Removal" is included in this contract. This provision ensures snow is removed from the entire road surface width, including pull-outs.</i> |
| Protect Improvements |
| Identify, avoid, and protect overhead and underground utility lines during road improvement, maintenance, and closure work, as well as during material haul and equipment transport. <i>No known overhead or underground utility lines are within the sale area boundary; see BT6.22 "Protection of Improvements".</i> |
| Any protected improvements such as fences and water developments identified on timber sale area or project area maps would be protected during harvest, burning, or other treatment activities. Damaged improvements will be repaired or |

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| replaced, depending upon the amount of damage. <i>BT6.22 “Protected Improvements” is included in the contract. Any protected improvements that exist within the sale area boundary have been identified on the sale area or vicinity map.</i> |
| Air Resources |
| Prior to any burning operations, a smoke permit will be obtained from the state of Colorado to ensure operations meet air quality standards and smoke impacts are minimized. <i>Not applicable; no burning activities will occur.</i> |
| Watershed Protection- Water, Aquatic, Fish, Riparian/Wetlands, Soils |
| Any temporary stream crossing structures (hardened crossings, culverts.) will be designed to provide for passage of flows and sediment, withstand expected flood flows, and allow free movement of resident aquatic life. Upon project completion, remove all temporary crossings, restore the channel morphology, and re-vegetate channel banks. <i>Not applicable to this sale; no temporary stream crossing structures exist within the sale area boundary.</i> |
| To the extent feasible, slash piles shall be located at least 50 feet (hand piles) or 200 feet (machine piles) from perennial streams, lakes, ponds, wetlands, or riparian areas. <i>Slash piles will be located at least 50 feet or 200 feet from perennial streams, lakes, ponds, wetlands or riparian areas. See CT6.7# “Slash Treatment”.</i> |
| In commercial timber harvest areas, a no-harvest buffer will be established along all intermittent and perennial stream channels for 100 feet on both sides of the channel. No heavy equipment will operate within this buffer except at designated crossings, unless authorized by the hydrologist or their designee where site-specific conditions would minimize stream and riparian impacts. <i>All intermittent and perennial streams were excluded during unit layout; no intermittent or perennial streams exist within cutting unit.</i> |
| In commercial timber harvest areas, a no-harvest buffer of 50 feet on both sides of the channel would be implemented on ephemeral channels to ensure watersheds protection from sediment generated from harvested areas. <i>Not applicable to sale; no ephemeral streams exist within cutting unit.</i> |
| All roads (existing, new temporary, or old temporary road prism) used for project will be evaluated to identify and correct erosion or sediment problems. Additional cross drains or other standard measures will be used as appropriate to divert any road drainage into buffer strips and minimize road drainage into stream channels. <i>Existing roads have been evaluated and erosion or sediment problems have been corrected. CT5.35# “Closure of Temporary Roads” is included in this contract.</i> |
| Where existing roads will be reconstructed within 100 feet of intermittent or perennial streams, hydrology or soil specialists or their designees will be consulted to ensure sediment sources are disconnected from stream channels. If necessary, hardening, filter fence, straw wattles, timber slash windrows, or other measures will be used, as appropriate, to prevent sediment from entering a stream course. <i>Not applicable to this sale; there are not any areas of existing road that will be reconstructed within 100 feet of intermittent or perennial streams.</i> |
| As calculated by the equivalent roaded area (ERA) process, disturbance values will be limited to 15 percent or less of each HUC 6 watershed area, or 10 percent or less in watersheds of concern. Activities which could exceed these limits would require additional investigation by soil or watershed staff to ensure the protection of soil and watershed health. <i>The Hydrology specialist checklist for this sale states current ERA for Middle Fork Carnero Creek is 6.3% and projected to be 8.1% after project completion and current ERA for Squaw Creek is 5.1% and projected to be 6.0% after project completion. These values are acceptable, as all streams are well buffered and are currently in good condition with very few indications of sedimentation or bank instability.</i> |
| Considering other resource objectives, re-use existing skid trails and landings whenever practical to minimize new disturbance. <i>CT6.42# “Skidding and Yarding” is included in this contract and states a special objective to reuse skid trails wherever practical.</i> |
| If whole tree yarding is used, limbs and/or tops shall be returned to the unit if 15 percent or more of the unit has exposed mineral soil; this material shall be distributed in areas primarily comprised of bare mineral soils. <i>CT6.7# “Slash Treatment” is included in this contract. If whole tree yarding is used and if a unit approaches the 15% exposed mineral soil criteria, limbs and/or tops will be returned to the unit and/or seeded with subalpine grass mix per CT6.601#.</i> |
| Hand felling of hazard trees is permitted in the water influence zone. Trees shall be directionally felled and may be left in place to maintain or improve stream and riparian health. If necessary, felled trees may be stabilized to prevent movement. The Forest timber sale or contract administrator shall consult the hydrologist or wildlife/fish biologist prior to granting approval to remove hazard trees from water influence zone areas. If hazard trees need to be removed from water influence zone areas, they should be felled in such a way as to protect vegetation from damage and one end suspended during removal. <i>Not applicable to this sale; there were no WIZ areas identified within the harvest units.</i> |
| Any hazard tree, and associated slash, cut and lying within 100 feet upstream of a culvert/bridge crossing a perennial or intermittent stream, and within 25 feet from the stream edge that has the potential to obstruct the crossing shall be stabilized, removed, or moved at least 50 feet upslope away from the stream. <i>Not applicable to this sale; there are no streams identified within the harvest units.</i> |

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| Felled hazard trees and slash shall be removed from roadside ditches and culverts, including removing from cross drains and sediment traps. CT5.31# “Road Maintenance Requirements” and BT5.3 “Road Maintenance” are included in this contract. |
| Felled hazard trees may be removed from stream corridors or riparian areas with agency approval when they create unacceptable fuel loading; fail to meet visual objectives; or create unacceptable limits to human, livestock, or wildlife movement. Minimize skidding across stream channels. Not applicable to this sale; there are no stream channels or corridors within harvest units. |
| In riparian encroachment treatment areas, avoid cutting conifers that provide substantial shade to a perennial stream unless authorized by the fisheries biologist or designee. Not applicable to this sale; there are no riparian encroachment treatment areas within harvest units. |
| Prescribed broadcast burning operations will avoid the WIZ of streams and wetlands to minimize resource impact, and the only fire that will be allowed is that which may occasionally creep into these areas. Not applicable to this sale; no prescribed broadcast burning operations will occur during timber sale contract period. |
| In prescribed broadcast burns, retain ground cover amounts recommended by the soil scientist or their designee to keep erosion of the underburned sites within the limits of the burn plan and objectives for soil cover. Not applicable to this sale; no prescribed broadcast burning operations will occur during timber sale contract period. |
| Coordinate with fisheries biologist, hydrologist and engineers to ensure crossings are constructed to minimize streambank disturbance and sediment mobilization, allow for the passage of flood flows, debris and aquatic organisms for the life of the structure and crossing-675.3K. Not applicable to this sale; NFSR 675.3K is not within the sale area boundary and is not utilized for operations. |
| 675.3K–Winter Logging is acceptable otherwise area will be buffered and avoided. Road needs additional drainage structures to help make the road usable and reduce erosion and sedimentation. Crossing at eastern edge of unit (outside) may need to be addressed if stream migrates out of existing channel. Not applicable to this sale; NFSR 675.3K is not within the sale area boundary and is not utilized for operations. |
| Silviculture, Insect/Disease |
| If consistent with other resource objectives, in pine dominated stands, avoid creating large amounts of green pine lop and scatter slash from December through June; dispose of any machine constructed slash piles before the center material dries to reduce the probability of damage from pine engraver beetle (<i>Ips</i> , species) population buildup. Not applicable to this sale; the harvest of pine dominated stands is not occurring. |
| Locate machine slash piles at least 30 feet outside the dripline of residual live trees and hand piles at least 10 feet from outside the dripline of live trees to avoid damage. CT6.7# “Slash Treatment” is included in this contract. |
| To move toward desired conditions, follow treatment options outlined in Silviculture-Prescribed Fire Guidelines (appendix D), as appropriate. Salvage by means of an Overstory Removal Cut will be done in each harvest unit. Silviculture guidelines 7 and 8 will be followed within each harvest unit, as appropriate. |
| Biodiversity |
| In spruce-fir salvage units, retain a minimum average of 6 hard snags/acre in various distributions. Preferably these snags should be spruce and of a larger than average diameter for the cutting unit. Per the La Garita Hills FEIS Update to Land Management Plan document the PDC will be revised as, “In spruce-fir salvage areas identified within the analysis area, retain a minimum of 6 hard snags/acre in various distributions. Preferably these snags should be spruce and of larger than average diameter for the planning area”. The planning area outside of harvest units will retain all snags in various distributions and sizes. For all other forest types, retain the minimum snags per acre as specified in Forest Plan standards or greater, as specified in the site-specific silvicultural prescription. Not applicable to sale; spruce-fir salvage only. |
| In managed stands, ensure at least the minimum amounts of coarse woody debris are present, in a variety of size classes, are present over time to meet desired conditions for each cover type to retain moisture, provide microsites, and provide habitats for small mammals. Additional amounts may be retained to meet specific resource objectives, as specified in silvicultural prescriptions. CT6.7# Slash Treatment”, is included in this contract stating coarse woody debris will be retained in all units. Coarse woody debris guidelines are included in the Logging Plan. |
| Across the watersheds and project landscape, manage or move toward maintaining 30 to 50 percent of forested acres, as appropriate for each forest type, in a mature to old structural stage with sustainable densities, as feasible. Not applicable to sale; stand is not within a mature to old structural stage. Stands are currently within the stand initiation and/or understory reinitiation structural stages. |

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| Manage to maintain or promote aspen across the landscape; of high priority is to reduce or remove encroaching conifers in lower elevation, drier sites to the extent feasible. <i>The purpose of this sale is salvage of Engelmann spruce in response to the beetle outbreak. Only Engelmann spruce will be designated for removal; aspen and other conifers (Douglas-fir, Blue Spruce, Limber Pine, Ponderosa Pine, Lodgepole Pine, etc.) are not designated for removal, except for operational purposes.</i> |
| Where chipping/grinding or other mastication method is used to treat understory fuels and prescribed burning is not proposed as a follow-up activity, slash shall not cover more than 50 percent of ground surface and depth shall not exceed four inches to minimize impacts to understory vegetation. <i>Not applicable to this sale; chipping/grinding or mastication are not included in this contract.</i> |
| Seeding of disturbed sites will utilize an appropriate native seed mix and application prescription. <i>CT6.601# “Erosion Control Seeding” and CT6.602# “Protection of Disturbed Areas from Establishment of Noxious Weeds” are included in this contract and include requirements that all seed purchased and rehabilitation materials will be certified weed free of noxious weeds from weeds listed on the current “All States Noxious Weeds List” and all tags will be provided to the Forest Service. Seed mix requirements and application quantity are also included in these provisions.</i> |
| Place landings away from desirable regeneration, if possible, to protect understory. <i>CT6.42# “Skidding and Yarding” specifies slash will be lop and scattered throughout harvest unit. BT6.32 “Protection of Residual Trees” is included in this contract.</i> |
| Wildlife |
| If any threatened, endangered, or sensitive species are discovered within the project area during project implementation, they will be protected as directed in land management plans or consultation with the U.S. Fish and Wildlife Service will be initiated as necessary. <i>BT6.24 “Protection Measures Needed for Plants, Animals, Cultural Resources and Cave Resources” is included in this contract.</i> |
| A portion of the large slash piles created during timber harvest activities will be left on site for small mammal habitat, especially in the spruce-fir areas most affected by spruce beetle mortality. A team consisting of the District biologist, Forester, and Fuels Specialists will jointly determine which piles would be left. <i>The team specified above will determine which piles to preserve for small mammal habitat after harvest operations and before piles are burned. The remaining piles will be burned by fire personnel when conditions permit. As stated in the Wildlife specialist checklist, 10% of the piles will be retained for small mammal habitat.</i> |
| Closed or gated roads utilized during logging activities and following logging will remain closed to the general public to minimize wildlife disturbance and for public safety. An exception may be temporarily opening roads for firewood collection following thinning or timber harvest. <i>There are no gated roads within the sale area boundary.</i> |
| Trees with known active bird nests or cavities will be designated for retention. <i>No wildlife trees have been identified at this time, however the purchaser and sale administration team may retain any other wildlife trees found during harvest.</i> |
| The contract administrator shall make an effort to notify the District Biologist prior to considering or granting approval to cut or remove any hazard tree that actively supports a threatened, endangered, proposed, or sensitive species, including raptor nests. <i>None of these trees have been identified at this time; however, if found by purchaser or Sale Administration team, the District Biologist will be notified prior to cut and removal.</i> |
| Based on buffer zones recommended for Colorado Raptors, no project activities will be allowed within the buffer zones during these times if nests are occupied: <ul style="list-style-type: none"> Golden eagle: within ½ mile radius of active nest; Red-tailed hawk: within ½ mile radius of active nest; Swainson’s hawk: within ¼ mile radius of active nest; Peregrine falcon: within ½ mile of the nest cliff(s); Northern goshawk: within ½ mile radius of active nest; Sharp-shinned hawk: within ½ mile radius of active nest. As per forest plan direction, the no disturbance buffer around an active nest sites will generally be required from March through July though no disturbance periods may be adjusted depending on species and local site conditions, based on pre-implementation review. For species not listed, the buffer radius will be based on the best available information. <i>Occupied nests for the species listed above were not found within the sale area boundary. If a raptor nest is found during any stage of project implementation, the guidelines will be followed, and District Biologist will be notified.</i> |

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| For BLM lands, all applicable conservation measures pertaining to vegetation management identified in the LCAS (2013) will be applied during project planning, analysis and implementation (appendix D.1A). <i>Not applicable to this sale; project does not occur on BLM lands.</i> |
| For BLM lands, retain mature multi-story conifer stands that have the capability to provide dense horizontal cover. If portions of these stands currently lack dense horizontal cover, focus vegetation management practices (such as group selection harvest) in those areas to increase understory density and improve snowshoe hare habitat. <i>Not applicable to this sale; project does not occur on BLM lands.</i> |
| For BLM lands, retain horizontal cover $\geq 20\%$ as developing or existing dense horizontal cover. <i>Not applicable to this sale; project does not occur on BLM lands.</i> |
| All applicable management Objectives, Standards and Guidelines contained in the Southern Rockies Lynx Amendment will be applied during project planning, analysis and implementation (appendix D.1). <i>Southern Rockies Lynx Amendment objectives, standards and guidelines were adhered to during project planning, analysis and implementation. See La Garita Hills Restoration Project FEIS, ROD and Franklins Tower specialist checklists for further information.</i> |
| In lynx habitat, areas supporting live advance regeneration will be avoided to the extent possible by adjusting units during layout, by skid trail location and designation, or other means. Areas with $\geq 35\%$ Horizontal Cover (i.e., DHC) in blocks greater than 0.3 acres in size will be protected from damage. <i>Not applicable to this sale; DHC blocks meeting the horizontal cover and size criteria were not found within the cutting units.</i> |
| Skid trails and landings will be located to minimize impacts to advanced regeneration. Skid trails will be placed at least 100 feet apart, allowing for topographic variation and skid trail convergence at landings. <i>CT6.42# "Skidding and Yarding" is included in this contract. The provision will ensure skid trails will be located to minimize impacts to advance regeneration, as well as ensure skid trail spacing will be met.</i> |
| In spruce beetle salvage units, retain all live trees except for trees that need to be removed for operational/safety or silvicultural purposes. Operational/safety or silvicultural purposes include the need to remove select live trees, if necessary, to access dead trees for salvage, to address safety concerns, or to cut damaged trees. <i>The Salvage by Overstory Removal prescription along with A2, only allows for the removal of dead Engelmann spruce. All other conifer species, including live Engelmann spruce, and aspen are not designated for removal, except for operational purposes.</i> |
| Protect red squirrel primary caches at a density of 1 cache per 2 acres, to the extent feasible. Retain all trees within a 26-foot radius (1/20th acre) from the cache to maintain nest tree (spruce-fir, spruce- mixed conifer and cool-moist Douglas-fir/mixed conifer vegetation zones). <i>No squirrel caches were identified within the cutting unit.</i> |
| Individual projects generated by this analysis will maintain landscape connectivity for Canada lynx as determined through a review by a wildlife biologist. This review will assess project consistency in maintaining connectivity according to the definition of <i>Habitat Connectivity (lynx)</i> provided in the SRLA ROD, as well as according to guidelines provided in the SRLA Implementation Guide.). <i>Landscape connectivity for Canada Lynx was reviewed by the wildlife biologist and addressed in the Franklins Tower Wildlife specialist checklist.</i> |
| Avoid burning any early seral aspen clones or shrub lands over 2 acres in size, except where specific beneficial objectives have been identified. <i>Not applicable to this sale; burning is not included in this contract.</i> |
| Conducting prescribed burning activities outside the Southwestern willow flycatcher (SWWF) breeding season (May 1 to August 15) when within ¼ mile of potential suitable SWWF habitat, unless habitat has been confirmed as unoccupied. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |
| If implementing harvest or prescribed fire activities in mule deer or elk winter range (MA 5.41 on NF lands), as part of the pre-implementation checklist process, determine if adjustments are needed in timing or placement of activities during the winter period. <i>Not applicable to this sale; Sale area boundary and respective units are not within MA 5.41. See Wildlife specialist checklist.</i> |
| If implementing harvest or prescribed fire activities in mule deer fawning or elk calving areas, as part of the pre-implementation checklist process, determine if adjustments may be needed in timing or placement of activities during the key reproductive period (May 15-July 15). <i>Not applicable to this sale; Sale area boundary and respective units are not within mule deer fawning or elk calving areas. See Wildlife specialist checklist.</i> |
| If any caves or abandoned underground mines are discovered in or near treatment units during lay-out or treatment activity, defer prescribed fire treatments within ¼ mile of a cave/mine entrance or shaft until consultation with a wildlife biologist occurs. <i>Not applicable to this sale; prescribed fire is not included in this contract. However, BT6.24</i> |

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| <i>“Protection Measures Needed for Plants, Animals, Cultural Resources and Cave Resources” is included in the contract.</i> |
| Range (Livestock) Management |
| As needed in individual timber sale areas, temporary fences would be constructed to restrict livestock access to the project areas during harvest and the early stages of planting and regeneration of the harvested area. Where possible, any new fences would utilize existing barriers and openings or openings created by harvest activities to reduce the need to clear brush or trees. When the temporary fence is no longer needed, it would be removed. <i>This will be assessed post-harvest through coordination with timber and range staff prior to any reforestation efforts. If needed, the fencing may be added to the KV plan, if funds exist before sale closure or, it may be funded with appropriated money.</i> |
| If current natural barriers are made ineffective with the development of skid trails or tree removal, new fence locations would be identified on a sale area and/or allotment boundary basis. Fences would be constructed as necessary to ensure allotment rotations are in compliance with individual allotment management plans and annual operating instructions. <i>To be determined by the Range and Timber staff after harvest operations are complete. Natural barriers are expected to exist after harvest.</i> |
| Provide one full growing season rest period prior to scheduling livestock grazing in prescribed burn units, as needed considering timing of grazing, amount of use, and duration. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |
| Unless approved by the Responsible Official, prescribed broadcast burn treatments will not be implemented in multiple pastures under the same grazing permit in the same grazing season. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |
| Noxious Weed Management |
| All organic material used for rehabilitation (seed, straw, erosion control material, or other) will be certified weed free. <i>CT6.601# “Erosion Control Seeding” and CT6.602# “Protection of Disturbed Areas from Establishment of Noxious Weeds” are included in this contract and include requirements that all seed purchased and rehabilitation materials will be certified weed free of noxious weeds listed on the “All States Noxious Weeds List” and all tags will be provided to the Forest Service.</i> |
| The timber purchaser or other contractors will be required to clean all logging, mechanized thinning, or construction equipment that operates off roads prior to entry to the project area. <i>BT6.35 “Equipment Cleaning” is included in this contract requiring all off-road equipment to be cleaned and inspected before moving to the sale area and requires all off-road equipment to be cleaned if it previously operated in an area known to have noxious weeds.</i> |
| Road fill and road base material brought in off site will come from a borrow source free of state-listed noxious weeds. The Forest Service will inspect and approve the borrow source location prior to materials being hauled to the project area. <i>Not applicable to this sale; road fill and road base material from a borrow source is not being used.</i> |
| Prior to project activities, non-native invasive species and noxious weed infestations should be inventoried and treated as appropriate. <i>Treatment of noxious weeds and non-native invasive species is included in the KV plan. Refer to the Invasive Species and Noxious Weeds specialist checklist. If any other invasive plant species and/or state-listed noxious weeds are discovered, the Botanist, Rangeland Manager and/or District Ranger will be notified.</i> |
| Prior to project implementation, overlay mapped units with known non-native invasive and noxious weed inventory locations in GIS. Conduct pre-harvest inventory, when feasible. In addition, presale personnel will be trained in non-native invasive plant and noxious weed identification and will document all sightings of weed establishment. <i>See the Invasive Species and Noxious Weeds specialist checklist for Franklins Tower Beetle Salvage.</i> |
| New infestations of non-native invasive plants and noxious weeds identified by either the Forest Service or operators will be promptly reported to the Forest Service noxious weed coordinator to ensure that the new infestations are included in a treatment plan. Noxious weeds shall be treated following termination of project activities as feasible. <i>If any non-native invasive plants and noxious weeds are identified by the Forest Service or operators during harvest activities, they will be reported to the Forest Service noxious weed coordinator. Invasive plant and noxious weed treatments are included in the Sale Area Improvement Plan.</i> |
| Areas proposed for Rx burning will be surveyed for the presence of cheatgrass via FS/BLM noxious weed inventory GIS database and/or field verification. If present, the infestation will be excluded from burning and/or pre-treated. The infestation will be included in post-treatment plans. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |

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| Include non-native invasive plant and noxious weed inventory and treatment in the KV Plan. After completion of harvest activities, use available KV funds to inventory and treat noxious weeds located within the sale area. <i>Invasive plant and noxious weed inventory and treatment has been identified in the KV plan.</i> |
| Prescribed Fire |
| An approved burn plan will be completed prior to any burn operation. Burn plans will be developed in an interdisciplinary manner to meet specific resource objectives that are consistent with project objectives and land management plans. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |
| For prescribed broadcast burning operations, incorporated roads, trails, meadows, ridgelines, or other landscape features into burn plans to minimize the need for fire line construction. <i>Not applicable to this sale; prescribed burning is not included in this contract.</i> |
| Heritage |
| A programmatic agreement will be executed with the Colorado State Historic Preservation Office because of the multi-unit scope, the similar and repetitive nature of the project (36 CFR 800.14(b)(1)(i)), and because the effects of the project cannot be fully determined prior to signing an environmental impact statement record of decision (36 CFR 800.14(b)(1)(ii)). <i>Agreement and SHPO concurrence can be found in the Heritage specialist checklist.</i> |
| The Rio Grande National Forest and BLM will complete inventories within all areas defined as areas of potential effect, as needed, using the appropriate survey strategy outlined in the programmatic agreement (appendix E). <i>Surveys were completed with a finding of no historic properties affected. See the Heritage specialist checklist.</i> |
| The heritage pre-implementation checklist will be utilized as each project area is developed to inform the research design and design criteria for each specific area. <i>Heritage checklist was completed for Franklins Tower Beetle Salvage; see the Heritage specialist checklist.</i> |
| Eligible and unevaluated sites will be avoided by all ground-disturbing activities. Locational data will be provided to the timber and fuels programs so they can easily avoid these sites. <i>No unevaluated or eligible sites were found during cultural resource surveys.</i> |
| Historic properties at high risk of damage by fire will be protected through the use of natural topographic features, previously constructed roads, fuel breaks and/or non-ground-disturbing techniques, such as wet lines and black lines. <i>Not applicable to this sale; prescribed fire is not included in this contract.</i> |
| Where appropriate, activity units should be designed in cooperation with heritage staff to reduce fuel loading around significant fire sensitive heritage resources. <i>Not applicable to this sale; prescribed fire is not included in this contract.</i> |
| Allow burning over known sites without fire-sensitive features or materials if slash piles are not within site boundaries, ignition points are selected outside site boundaries, equipment staging occurs outside site boundaries, and equipment does not drive over sites. <i>Not applicable to this sale; prescribed fire is not included in this contract.</i> |
| Allow thinning within site boundaries provided cutting is accomplished using hand tools only, large diameter trees are felled away from all features and artifact concentrations, thinned material is hand carried outside site boundaries, mechanized equipment is not used within site boundaries and equipment is not staged within site boundaries. <i>No sites were discovered within the sale area boundary.</i> |
| Exempt Undertakings - Some of the vegetation treatment activities, because of their nature and scope, have no potential to adversely affect historic properties and are exempt from further review and/or consultation under the terms of this agreement. <i>Not applicable to this sale; the treatment activities are not considered an exempt undertaking. The sale area was reviewed by heritage specialists and received SHPO concurrence.</i> |
| Timber and fuels crews will be trained in the identification of fire sensitive sites and those sensitive to manual and mechanized thinning. <i>Crews did not identify any sensitive sites during unit layout.</i> |
| The discovery and education stipulation will be emphasized in areas with old growth or large aspen and ponderosa pine with regard to avoidance and protection of undocumented arborglyphs and culturally modified trees. <i>BT6.24 "Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources in included in this contract. The sale does not have any old growth or ponderosa pine, and aspen is not designated for removal, except for operational purposes.</i> |

Upon the inadvertent discovery of culturally modified trees during prescribed burn implementation, crews will execute the guidance for culturally modified trees described in appendix D.3. ***Not applicable to this sale; prescribed burning is not included in this contract.***

All persons associated with operations under this authorization must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If, in connection with operations under this authorization, any of the above resources are encountered, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the Rio Grande National Forest authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 & 112, 43 CFR 10.4). ***BT6.24 “Protection Measures Needed for Plants, Animals, Cultural Resources and Cave Resources” is included in this contract.***

Developed Recreation

Site-specific vegetation management plans will be completed and approved by the district ranger prior to any vegetation treatments being implemented in any developed recreation site. ***Not applicable to this sale; vegetation treatments are not being implemented in any developed recreation sites.***

Scenic Resources

Use breaks in topography and changes in vegetation to blend treated stands into untreated areas by feathering or scalloping edges, tying into existing openings. Minimize straight lines and abrupt edges unless they are characteristic of the local vegetation patterns. ***Accomplished during sale layout.***

Minimize creating open linear corridors when removing hazard trees along roads, power lines, fences, or other linear infrastructure. Vary corridor width considering natural vegetation patterns and topography to blend treatments into local landscape. ***Visual integrity will be maintained through sale layout and harvest operations, while also protecting district improvements/investments, such as fences and roads. See Silvicultural prescriptions for more information.***

CRUISE VOLUMES

The included volume was cruised in the fall of 2023 using the variable plot method for all nonsawtimber. The cruise was designed to scaling standards to stay below a combined sampling error of + or - 40% with an estimated sale value of \$99.50. The final cruise error was 55.16%.

Due to the low value of this sale (\$94.25), it is not required to meet a sampling error. This meets Regional and WO handbook standards in WO amendments 2409.12, chapter 41.1. This meets Regional and WO handbook standards in WO amendments 2409.12 –2012-1.

Collected field data was entered and processed using the U.S. Forest Service software suite.

Hidden defect was included in volume totals (10% for dead Engelmann Spruce).

A. Volume Summary:

Table 1: Volume Summary

| Nonsawtimber | Gross CCF | Net CCF | Total Volume CCF |
|---------------------|------------------|----------------|-------------------------|
| Engelmann Spruce | 575 | 377 | 377 |

Volume estimates may differ slightly from the contract due to program rounding.

B. Contract Volume

Table 2: Cutting Unit Acres and Net Harvest Volume

| Unit | Acres | Total Cruise Printout Volume | Total Unit Volume |
|------|-------|------------------------------|-------------------|
| 14 | 26.9 | 255 | 255 |
| 17 | 12.9 | 122 | 122 |

C. Area Determination

Area determination for this sale was conducted using a Global Positioning System (GPS) and the “walk” method for all units. Procedures used for determining the acreages of harvest units in the timber sale area are in accordance with the standards set forth in R2 Supplement 2409.12-Timber Cruising Handbook, chapter 50. GPS data was collected summer of 2018 by the Saguache timber crew. Details are outlined in the Grateful Dead Area Calculation spreadsheet.

Table 3: Area Error Calculations

| Unit | Acres | Error Acres | Error % | Final Acres |
|-------|-------|-------------|---------|--------------|
| 14 | 26.9 | 1.0 | 3.6% | 26.9 +/- 1.0 |
| 17 | 12.9 | 0.8 | 5.8% | 12.9 +/- 0.8 |
| Total | 39.8 | 1.8 | | 39.8 +/- 1.8 |

APPRAISAL- Nonsawtimber

A. Appraisal Data

The Grateful Dead Beetle Salvage Sale was appraised using the R234 TEA (transaction evidence appraisal) system. Sale was appraised using Bulletin BU230125.

B. Round Trip Minutes (Haul Cost) Calculation (Refer to GratefulDead_appraisalSpreadsheet.xlsx, “haul tab”)

Sawtimber: Haul to Blanca, Colorado

Table 4: Haul Cost

| Road No. | Haul Miles | Haul Class | RT Travel Time (min.) | % Grade | % Volume | Round Trip % Increase | Round Trip Travel Time (min.) |
|-------------------|------------|------------|-----------------------|---------|----------|-----------------------|-------------------------------|
| Non-system Road 1 | 0.3 | 5.B.3 | 5.5 | -1% | 67% | 0% | 1.1055 |
| Non-system Road 2 | 0.8 | 5.B.3 | 5.5 | -1% | 33% | 0% | 1.452 |
| NFSR 652.1A | 3 | 4.B.3 | 5.1 | 0% | 100% | 0% | 15.3 |
| NFSR 652 | 2 | 4.B.3 | 5.1 | 2% | 100% | 0% | 10.2 |
| 41G | 7 | 3.A.2 | 3.9 | 0% | 100% | 0% | 27.3 |
| County Road 41G | 10.1 | 3.A.2 | 3.9 | -1% | 100% | 0% | 39.39 |
| County Road G | 2.04 | 2.C.1 | 4.2 | 0% | 100% | 0% | 8.568 |
| US Hwy 285 | 5.9 | 2.A.1 | 3.2 | 0% | 100% | 0% | 18.88 |
| CO Hwy 112 | 14.7 | 2.A.1 | 3.2 | 0% | 100% | 0% | 47.04 |

| | | | | | | | |
|------------|------|-------|-----|----|------|----|-------|
| CO Hwy 17 | 19.1 | 2.A.1 | 3.2 | 0% | 100% | 0% | 61.12 |
| US Hwy 160 | 19.2 | 1.A.1 | 2.8 | 0% | 100% | 0% | 53.76 |
| CR 12 | 0.6 | 2.B.1 | 3.6 | 0% | 100% | 0% | 2.16 |

*Round Trip Minutes Per Mile are from FSH 2409.22 Sec. 44.1 Exhibit 1

406.28 Minutes Round Trip Time x \$0.1130/CCF/Minute (FSH 2409.22 Sec. 44.0)

Table 4b: Nonsawtimber Haul Cost

| Haul Cost Calculation Nonsawtimber | |
|-----------------------------------------------------|-------------|
| Appraisal point for POL is Montrose Forest Products | |
| Blanca, CO | |
| (Haul miles - avg haul (52 miles))*0.1700 | |
| Avg Haul Miles (from Bulletin) | 52 |
| Sale Haul Miles | 84.7 |
| POL Haul Cost (from Bulletin) | 0.1700 |
| Total Haul Cost POL | 5.56 |

*Haul cost calculated as explained in bulletin BU230125

Total Haul Cost for Nonsawtimber/CCF:

\$5.56

C. Road Maintenance (Refer to "GratefulDead_appraisalSpreadsheet.xlsx, Road Maintenance tab")

1) Pre-Haul Maintenance – Purchaser responsibility

Table 5: Purchaser Pre-Haul Maintenance

| Road Number | Termini | Haul Miles |
|--------------------|--------------------|-------------------|
| NFSR 652.1A | NFSR 650 to End | 3.0 |
| Non-system Road 1 | NFSR 652.1A to End | 0.3 |
| Non-system Road 2 | NFSR 652.1A to End | 0.8 |
| Total Miles | | 4.1 |

Total Pre-Haul Maintenance:

\$2,393.95

Cost/CCF:

\$6.35/CCF

Roads to be maintained per BT5.3 and CT5.31#

2) During and Post-Haul Maintenance – Purchaser responsibility

Table 6: Purchaser Regular and Post-Haul Maintenance

| Road Number | Termini | Haul Miles |
|--------------------|---------------------------|-------------------|
| 41G | County Road G to NFSR 652 | 7.0 |
| NFSR 652 | 41G to NFSR 652.1A | 2.0 |
| NFSR 652.1A | NFSR 652 to End | 3.0 |
| Non-system Road 1 | NFSR 652.1A to End | 0.3 |
| Non-system Road 2 | NFSR 652.1A to MP 0.5 | 0.5 |
| Total Miles | | 12.8 |

Total Regular and Post-Haul Road Maintenance:

\$885.95

Cost/CCF:

\$2.35/CCF

Roads to be maintained per BT5.3 and CT5.31#

4) Road Maintenance Summary

| | |
|------------------------------------|--------------------|
| Pre-Haul Maintenance: | \$6.35 |
| Regular and Post-Haul Maintenance: | \$2.35 |
| Road Maintenance Deposits: | \$0.00 |
| Surface Rock Deposits: | \$0.00 |
| Snow Removal: | \$6.36 |
| Total Road Maintenance: | \$5,679.00 |
| Cost/CCF: | \$15.06/CCF |

D. Sale Slash Disposal (Refer to Brush Disposal Treatment Plan FS-2400-62)

| | |
|--------------------------|------------|
| Required deposits: | N/A |
| Total Slash Cost: | N/A |

E. Temporary Roads (Refer to "GratefulDead_appraisalSpreadsheet.xlsx, TS Cost Worksheet tab and Logging Plan")

Two existing temporary roads totaling 1.1 miles will be used for this sale and are identified in the logging plan.

Table 7: Temporary Roads

| Temporary Road | Length | Type |
|-----------------------|---------------|-------------|
| 1 | 0.3 | Existing |
| 2 | 0.8 | Existing |
| Total Temp Road | 1.1 | |

Temporary road one and 0.5 miles of temporary road 2 will remain open post-harvest; 0.3 miles of temporary road 2 will be closed post-harvest, per CT5.35.

F. Unusual & Quality Adjustments

This sale does not have any unusual or quality adjustments.

G. Appraisal Rates – BU230125

| | |
|--------------------------------|------------|
| Engelmann spruce nonsawtimber: | \$0.25/CCF |
|--------------------------------|------------|

H. Specified Roads

There are no specified roads; there is not a road package for this sale.

I. Fire Precautionary Period (A12)

June 01 to November 30

J. Purchaser Fire Obligation (Refer to "GratefulDead_appraisalSpreadsheet.xlsx, TS Cost Worksheet tab")

| | |
|-----------------------------------------------------|-------------------|
| 3 people x 12 hours x 3 days (\$21.08/hour [AD-C]): | \$2,276.64 |
| Rounded to the nearest \$100: | \$2,300.00 |

K. Termination Date (C24)

Termination date for this sale will be:

October 31, 2027**L. Bid Guarantee (Refer to "GratefulDead_appraisalSpreadsheet.xlsx, TS Cost Worksheet tab")**

Bid Guarantee:

\$94.25**M. Performance Bond Calculation (Refer to "GratefulDead_appraisalSpreadsheet.xlsx, TS Cost Worksheet tab")**

Bond Based on 10% of Advertised Stumpage Value:

\$9.42

Bond Based on Penal Sum:

\$2,000.00**N. Distribution of Funds at Advertised Rates****Total Sale Value:****\$94.25**

Contribution to NFF:

\$94.25

Stumpage Available for KV:

\$0.00

Essential KV:

\$0.00

Stumpage Available for SSF:

\$0.00