

TIMBER SALE REPORT AND APPRAISAL SUMMARY

JASPER CREEK SALVAGE TIMBER SALE

Prepared by: _____

Vincent DuPont, Forester
Conejos Peak Ranger District

Date: _____

I certify that this sale meets requirements of the Secretary of Agriculture's Regulation 36 CFR 223.30.

Approved by: _____

Andrea Jones, District Ranger
Conejos Peak Ranger District

Date: _____

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I. SUMMARY OF RECOMMENDATIONS

Advertised as Scaled Sale

DEAD AND LIVE SAWTIMBER	Engelmann Spruce	7666 CCF
	Total	7666 CCF
REQUIRED DEPOSITS		
	Road Maintenance	\$4.17/CCF
	Surface Rock Replacement	\$2.58/CCF
	Slash Deposit	\$0.37/CCF
	Reconstruction Eng.	\$0.00
TOTAL SALE VALUE		
	\$5.00	\$38,330.00
ADVERTISED VALUE	By Species and Product	
LIVE SAWTIMBER	ES, Live and Dead	\$5.00/CCF
APPRAISAL BULLETIN NO		BU230214
Support Information		
	Normal Operating Season	6/15 – 10/31
	Fire Liability	\$1900.00
	Termination Date	12/31/2019
	Method of Bidding	Sealed Bid
	Escalated	Yes
	Bid Guarantee	\$3,900.00
	Minimum Performance Bond	\$4,700.00

This sale complies with Section 6(g), 3(e) - (f) of the National Forest Management Act of 1976, (36 CFR 233.3), the (revised) Rio Grande National Forest Land and Resource Plan (approved 11/7/96), and the Burro/Blowout & Burro Unit 15 Vegetation Management Project Decision Notices.

II. DESCRIPTION OF SALE AREA

A. Location

This sale is found on the Conejos Peak and Divide Ranger Districts of the Rio Grande National Forest. The legal description is: all or portions of T37N, R4E, Sections 11, 13, 14, 15, and 24, NMPM and all in Rio Grande County, Colorado. Access from Del Norte Colorado is: south on County Road 14 for about 13 miles to its junction with NFSR 329. Take NFSR 329 for approximately 3 miles to its intersection with NFSR 334. Take NFSR 334 for approximately 1 ½ miles to the start of the sale.

B. Acreage and Volume Data

This sale is comprised of 6 cutting units totaling approximately 341 net acres, on National Forest land. This sale was cruised using variable plot sampling method. The estimated sale value was above \$20,000, so the cruise must achieve a sampling error of + or – 30%. The actual cruise error was 25.28% for all volume.

Included timber to be harvested: Live and Dead Engelmann spruce.

C. Land Status

National Forest

D. Basis for Selecting the Area

This area was identified for harvest to salvage beetle infested trees as a result of favorable spruce beetle conditions. The area lies within Forest Products Management area prescription 5.13 (Forest Products) and 5.11 (General Forest and Rangeland) of the revised Rio Grande National Forest Land and Resource Management Plan. For further information, please refer to the Burro Unit 15 Vegetation Management Project Record of Decision and Summary and the Burro/Blowout Vegetation Management Project Record of Decision and Summary.

E. Relationship to Other Uses

See the Burro Unit 15 Vegetation Management Project Decision Notice and Summary and Burro/Blowout Vegetation Management Project Decision Notice and Summary.

F. Mitigation Measures

Design criteria identified in the Burro Unit 15 and Burro/Blowout Vegetation Management Projects Record of Decision and Summary and specialist reports specific for this sale are highlighted here.

Burro Unit 15 Design Criteria- applies to Units 1, 2, 3, 15, & 16

Wildlife/TES

- Trees with known active bird nests will not be marked for removal. District wildlife technician will make every attempt to identify wildlife trees throughout the analysis and project timeline. If any of these trees pose a safety hazard, effort will be made to contact the District Biologist/technician before removal is considered. *No trees with active nests were marked for harvest- see silvicultural prescriptions/marketing guides and marking inspections. Additional mitigation will be handled through timber sale administration.*
- Trees with wildlife cavities (active or not) will not be harvested. If any of these trees pose a safety hazard, the District Biologist must be notified before removal is considered. *No trees with known cavities were marked for removal. Additional mitigation will be handled through timber sale administration.*
- Engelmann Spruce: These snags are the preferred species and are used by numerous cavity-nesting birds. Retain a minimum of 4 spruce snags/acre. Retain snags in various conditions of decay and various distributions (Forest Plan Biodiversity Standard 1, Section III-12), especially soft snags that do not present a safety hazard. Retain the largest snags possible, focusing on snags that are greater than 11 inches (28 cm) dbh. *A minimum of 4 large spruce snags/acre were left as leave trees, in various conditions of decay and distribution. See the silvicultural prescriptions/marketing guides and marking inspections.*
- No harvest activities will occur within approximately 600' slope distance of timberline to provide for wildlife corridors. *This was accomplished during unit boundary layout; see the silviculture prescription/marketing guides.*
- Big game cover will be provided along sections of open FS Road 334 that are not adjacent to steep slopes or limited entry riparian areas which already provide security habitat for deer and elk. Vegetation cover will be designated as needed on a site-specific basis to provide big game hiding cover within 200 feet of an open road where topography of other features do not provide security habitat. *Cover was left in these areas through the protection of regeneration, subalpine fir, and leave trees, as appropriate with safety limitations. See silvicultural prescriptions/marketing guides.*
- District wildlife personnel will be notified of any potential denning, burrowing or nesting activities identified. Protective measures will be implemented as necessary and will be based on the management activities involved, the species, topography, vegetative cover, and other site specific factors. *No sites found during layout and marking. Additional mitigation will be handled through timber sale administration.*
- Currently closed roads which are utilized during and after logging activities will remain closed to the general public to minimize wildlife disturbance. An exception may be temporarily opening roads for public firewood collection. *This will be handled through timber sale administration and sale closure.*
- If an active lynx or wolverine den is identified, a Forest Service Wildlife Biologist will be notified, and the den will be protected from disturbance and adverse habitat modifications by a buffer around the den site during denning periods. The extent of buffer will be based on

management activities involved, the species, topography, vegetative cover, and other site specific factors, in consultation with the USFWS. *No sites found during layout and marking. Additional mitigation will be handled through timber sale administration.*

- Harvest activities will not occur between the timeframe of May 1 to June 15 to minimize disturbance during calving and fawning periods unless otherwise consulted with the District Ranger and District Biologist. *Normal operating season established as June 15 to October 31 in provision A16. Springtime operations outside of that timeframe will require administrative approval from the District Ranger and Biologist.*
- Leave large woody debris (10-15 tons per acre) on harvested sites to retain moisture, trap soil movement, provide microsites for establishment of forbs, grasses, shrubs and trees, and to provide habitat for wildlife. *Objectives met by provision C6.7#- Slash Treatment*
- Healthy dense horizontal cover is vital to species such as snowshoe hare and lynx and thus must be conserved to the fullest extent possible. Therefore, effects to winter snowshoe hare habitat (dense horizontal cover (>35%, 1-2 meters above average snowpack), must and will be minimized by: placing landings in open areas away from the densest areas of dhc (i.e. >35%); place skid trails away from densest areas of dhc and at least 100 feet apart; logging during the winter months (when feasible), when snowpack levels provide protection to dhc; quality oversight by timber sale administrator and district biologist for items 1 and 2. *Objectives met by provisions C6.411# and C6.42#. Additional mitigation will be handled through timber sale administration.*
- Uneven-aged Vegetation Management Prescriptions- Consistency with the Southern Rockies Lynx Amendment (USDA Forest Service, 2008) S6 Exception 4... *This pdc is not applicable to the salvage sale, due to the adaptive response of "Salvage" now being utilized to respond to beetle infestation. This pdc was intended for green treatment design only, and an adaptive response to beetle activity was included in the Decision Notice.*

Range Resources

- Forest regeneration will be protected from livestock grazing by using adaptive strategies such as reducing livestock concentrations by avoiding salt/supplement placement in regenerating areas, avoid pushing large numbers of livestock into the area, use herders if needed to disperse/move large numbers, and maintaining pasture rotation to avoid season-long grazing. *This objective will be met through post-sale monitoring.*
- If current natural barriers are made ineffective by skid trails or tree removal, new fence locations would be identified on a sale area basis. Fences would be constructed as necessary to ensure allotment rotations are in compliance with individual Allotment Management Plans and Annual Operating Instructions. *This objective will be met through post-sale monitoring.*
- The Dry Creek Stock Driveway will be kept open and free of obstruction during harvest operations. *No harvest units encompass or are adjacent to the stock driveway. It is also designated as a protected improvement in the Sale Area Map, provision B6.22.*

Noxious Weeds

- The timber purchaser will be required to clean all logging and construction equipment that operates off roads prior to entry to the project area. *This objective is met by provision B6.35, "Equipment Cleaning."*
- Haul routes and highly disturbed areas, such as landings, will be treated for noxious weed infestations as needed for five years following harvest. *This objective is covered by the Sale Area Improvement Plan.*
- All organic material used for rehabilitation: seed, straw, erosion control material, etc., will be certified weed free. *This objective is addressed in provision C6.602#, "Protection of Disturbed Areas from Establishment of Noxious Weeds."*
- 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. *Borrow material source must be approved by the Forest Service before hauling, as specified in the Road Package.*

Timber Resources

- In all salvage stands that exceed 50 percent removal of overstory spruce, reforestation surveys will be conducted, and if the survey indicates that Forest Plan stocking Standards will not be met, these stands will be artificially reforested with Engelmann spruce seedlings to meet or exceed Forest Plan Standards. *This objective is addressed in the Sale Area Improvement Plan with stocking surveys and planting.*
- To reduce beetle habitat within conventional logging units, all green and/or infested spruce material 6 inches diameter and larger will be yarded and decked at the landing. This material will be treated within one year of decking. *This pdc has been waived for salvage operations per District Ranger approval. See 02/25/2014 e-mail response from Andrea Jones.*
- To protect soil, leave trees, and regeneration, tractor skid roads will be located and approved in advance of falling. Logs will also be skidded with the leading end free of the ground to reduce ground disturbance. *This objective is addressed in provision C6.42#- "Skidding & Yarding."*
- Spruce beetle trap tree areas will be identified within Shelterwood/Group selection units. *This pdc does not apply to Salvage operations, only Shelterwood/Group selection green treatments.*
- Trap trees within beetle trap areas will be felled in advance of logging the adjacent timber. *This pdc does not apply to Salvage operations, only Shelterwood/Group selection green treatments.*

Aquatic Resources

- In tractor harvest units, no harvest equipment or skid trails will be allowed within the water influence zone (WIZ - 100 horizontal feet from the top of each stream bank) of all intermittent or perennial stream channels. Skid trail crossings within the WIZ of all streams including ephemeral will be minimized and must be approved by the sale administrator. Heavy equipment may enter the WIZ if protected by at least 1 foot of packed snow or 2 inches of frozen soil. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."*

- Within the WIZ of ephemeral stream channels, harvest equipment can operate to remove trees. However, no skid trails are allowed in the WIZ and mechanical ground disturbance in or immediately adjacent to channels (within 25 ft) must be avoided. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- “Streamside Management Zones.”*
- Within the WIZ of perennial and intermittent streams of tractor units, a no cut buffer of 50 feet will be maintained from each channels edge. In the outer 50 feet of the WIZ, no more than 50% of any tree diameter class will be removed and a one-end log suspension as required by the WCP handbook must be maintained when trees are removed. Trees whose removal may result in increased sedimentation or negative impact to riparian vegetation will not be harvested (i.e. steep topography, wet or riparian areas). Trees leaning towards the stream channel will not be taken. Only those trees that are in flat, dry areas or where land slope is away from stream channels can be harvested. These trees will be take-tree (individual tree) marked prior to harvest in each sale unit. Recent beetle-hit trees will be the main target of this activity. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- “Streamside Management Zones.”*
- Within the WIZ of ephemeral channels, trees within the defined channel/swale area may not be harvested. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- “Streamside Management Zones.”*
- Skidding is not permitted within 100 feet of wetlands. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- “Streamside Management Zones.”*
- Minimize disturbance during maintenance of existing roads to limit exposure and placement of fresh sediment in ditches that could enter stream courses. Prevent sediment loss from road surfaces and rutting impacts by appropriate hardening such as the use of gravel rock. *This objective is address by C5.31#- “Road Maintenance” and the Road Package.*
- Existing roads will be evaluated to identify erosion and sediment problems so they can be fixed as part of road maintenance operations. Install additional cross drains if needed to divert run-off into buffer strips and minimize road drainage into stream channels. *This objective is address by C5.31#- “Road Maintenance” and the Road Package.*
- During temporary road construction and road re-opening activities, direct road drainage near stream crossings to filter strips. To limit sediment input from road segments at road crossings that cannot be directed to adequate filter strips; use timber slash windrows, silt fences, or other sediment control measures placed at the toe of road-fill slopes as needed. *Monitoring during re-opening of temp roads and new temporary road construction will take place by Sale Administration Team. Notes made to Sale Administration Team in logging plan.*
- A 100-ft no-cut buffer will be maintained from the edge of wetlands identified in the analysis area. Any new disturbance within 300 feet of these features will avoid impact to shallow groundwater flow. *This objective was addressed during unit layout; see the silviculture*

prescriptions/marking guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."

Soil Resources

- Forest Plan Standards for soil productivity (15% allowable soil impact to activity area), will be achieved through careful design of skid trails, operating during dry seasons or frozen soil conditions, and use of existing skid trails where practical. C6.42#- *"Skidding and Yarding" is included in this contract and states that skid trail spacing must be at least 100 feet apart except where converging. Soil condition will be monitored throughout harvest operations.*
- If whole tree yarding is used, limbs and/or tops shall be returned to the unit if 15% or more of the unit has exposed mineral soil; this material shall be distributed in areas primarily comprised of bare mineral soils. C6.7#- *"Slash Treatment" states if whole tree yarding, limbs and/or tops shall be returned to the unit if 15% or more of the unit is exposed bare mineral soil; this material shall be distributed in areas primarily comprised of bare mineral soil.*
- Any seeding of disturbed sites would utilize the Subalpine mix and application prescription. *This objective is met by provision C6.601#- "Erosion Control Seeding" and C6.602#- "Protection of Disturbed Areas from Establishment of Noxious Weeds." These prescribe subalpine seed mixes.*
- Operate heavy equipment for land treatments only when soils are dry, soil moisture is below the plastic limit, or protected by at least 1 foot of packed snow or 2 inches of frozen soil. C6.42#- *"Skidding and Yarding" is included in this contract and states just that.*
- Skid trail locations will be agreed to by the Forest Service in advance of construction; spacing will be approximately 100 feet apart, allowing for topographic variation and skid trail convergence; skid trails will be waterbarred at least every 100 feet on gradients greater than 20 percent, otherwise where needed depending on slope and ground conditions as per BMPs; slash will be placed on main skid trails as needed to control erosion. C6.42#- *"Skidding and Yarding" is included in this contract and states just that.*
- Reuse existing skid trails and landings whenever practical. *This objective will be handled during sale administration, applying provision C6.42#- "Skidding and Yarding."*
- Skidding equipment will generally be restricted to slopes <35%. C6.42#- *"Skidding and Yarding" is included in this contract and states just that.*
- During project implementation, temporary roads will be outsloped, covered with slash (when needed), and blocked to vehicle access after the harvest season and before onset of the wet season. *This objective is met by provision C5.35#- "Closure of Temporary Roads."*
- Units with an existing detrimental soil disturbance level $\geq 12\%$ will be treated as necessary to ensure post-treatment Forest Plan compliance, as determined by Forest Soil Scientist. *No treatment areas have been identified as having an existing detrimental disturbance level $\geq 12\%$. Post-treatment monitoring will be conducted by the soil scientist to ensure Forest Plan compliance.*

- Existing vegetation on cut and fill slopes would be retained as much as possible to limit sediment movement away from road. *This objective is addressed by provision C5.31#- “Road Maintenance Requirements.”*
- Subsoiling may be utilized after the sale units are completed on main skid trails, landings and temporary roads where no short term management needs have been identified. *Subsoiling has been identified in the KV Plan. Appropriate funds will be used if needed.*

Recreation Resources

- Notify the public of logging activity through media such as local newspapers and the Forest website. *Sale administration team will coordinate with Public Affairs on purchasers plan of operations.*
- No weekend log hauling during Big Game rifle hunting seasons from Friday noon until Sunday midnight. *C6.312# restricts hauling on weekends during hunting season.*
- In the event of winter logging, transportation logistics would be coordinated with Silver Thread snowmobile club concerning public snowmobile routes, parking, and turn-arounds. *Sale Administration team will coordinate with Winter Recreation Staff to inform snowmobile clubs and others of proposed winter operations.*
- Post caution signs at key intersections along the haul route to alert the public to logging activities. *B6.33 shows where logging hauling signs should be posted.*
- Avoid/Minimize damage to any designated and/or FS owned infrastructure from tree felling operations and machinery use. *Protection of improvements is address by provision B6.22- “Protection of Improvements.”*
- Felled trees and slash shall be removed from trail corridors, keeping the trail open and clear of debris. *No harvest units encompass or are adjacent to the Dry Creek stock driveway, which is also a motorized trail. The trail is also designated as a protected improvement in the Sale Area Map, provision B6.22.*
- If needed, temporary trail closures are a viable alternative, but notification 10 or more months in advance will be necessary, except in the case of an immediate safety concern. Such notification should emphasize hunters and outfitter-guides. Consultation with a Law Enforcement specialist is necessary if a trail closure is required, and this task may be assigned to recreation management personnel. *No temporary trail closure is needed for this sale.*
- Ten to twelve months before the planned offer date, notify the recreation special use administrator so that outfitter-guide permit holders can be notified of the impending sale activity. *This objective will be handled by the District Timber staff.*

Burro/Blowout Design criteria- applies to Unit 12

Wildlife/TES

- Retain a minimum of four snags/acre in various condition of decay and distribution. *Minimum snag requirements were accomplished through individual tree marking.*
- Trees with known active bird nests will not be marked for removal. *No known trees with active birds nests were marked or designated for removal.*

- Select snags with a larger-than-average diameter for the stand where available. *Snags larger than average were left as leave trees.*
- No harvest activities will occur within approximately 600' slope distance of timberline to provide for wildlife corridors. *This was accomplished during unit boundary layout; see the silviculture prescription/marketing guides.*
- Within the sanitation/salvage units (units 1-12, 14, 17-27, 30, 33), retain all live trees, except for trees that need to be removed for operational/safety purposes. *Only dead or live beetle infested trees were marked or designated for removal in all units for this sale.*
- Effects to understory vegetation will be minimized to benefit snowshoe hare and lynx by identifying skid trail locations (and avoiding areas of densest understory) and spacing skid trails at least 100 feet apart. *Objectives met by provisions C6.411# and C6.42#. Additional mitigation will be handled through timber sale administration.*
- Big game cover will be provided along sections of open road (roads 329 and 334) that are not adjacent to steep slopes or limited entry riparian areas that may already provide security habitat for deer and elk. Vegetation cover will be designated as needed on a site-specific basis to provide big game hiding cover within 200 feet of an open road where topography of other features do not provide security habitat. *This objective is not applicable to Unit 12.*
- The project has been surveyed for TES and MIS species with a particular emphasis on nest and den sites. This will continue to occur during project implementation. If a species or site is found, it will be protected as indicated in the Forest Plan with consultation with the U.S. Fish and Wildlife Service, as necessary. *B6.24- "Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources" included in this contract.*
- Roads utilized during logging activities and following logging will remain closed to the general public to minimize wildlife disturbance. An exception may be temporarily opening roads for public firewood collection. *C5.41#- "Closure to Use by Others" is included in this contract.*
- Harvest activities will not occur between the timeframe of May 1 to June 15 to minimize disturbance during calving and fawning periods unless otherwise consulted with the District Ranger and District Biologist. *C6.312#- "Control of Operations" is included in this contract stating that operations may not occur during this time period unless otherwise agreed to.*
- Leave large woody debris (10-15 tons per acre) on harvested sites to retain moisture, trap soil movement, provide microsites for establishment of forbs, grasses, shrubs and trees, and to provide habitat for wildlife. *Existing cull material will be left on site and meet this requirement.*
- Winter logging is preferred to limit direct disturbance to the fewest number of wildlife species as possible. *No restrictions are in this contract restricting winter operations.*
- Boreal owl nest boxes along Road 329 not protected by the Big Game Cover PDC will have a 100 foot no cut buffer radius around them. An exception to this buffer would be for trees that need to be removed for safety reasons. *This objective is not applicable to Unit 12.*
- To protect potential lynx kittens, felling operations will not occur within helicopter units from May 1 to July 15. (Helicopter units are most likely to provide denning sites.) *No helicopter logging units are being offered in this sale.*

- Within uneven-age prescription units 13 and 28, utilize group selection harvesting to create openings 1 to 2 acres in size. *This objective is not applicable to Unit 12.*
- In uneven-age prescription units 13 and 28, make 1-2 jackpot piles within created openings to provide snowshoe hare habitat. Subalpine fir will be used, preferably with root wads attached. Placement of the piles, number of trees per pile, and diameter of trees will be determined jointly by a biologist and silviculturist. *This objective is not applicable to Unit 12.*
- In Intermediate Shelterwood Unit 15, no harvesting activities would occur within pockets of existing understory regeneration. *This objective is not applicable to Unit 12.*

Range Resources

- As needed in individual Sale Areas, temporary fence would be constructed to restrict livestock access to the project areas during harvest and the early stages of planting and regeneration of the harvest area. Where possible, any new fences would utilize existing barriers and would use existing 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. *Sale Administration team will notify Range Team if problems exist with livestock during harvest operations and determine best course of action at that time. Fencing for regeneration purposes will be determined after harvest if needed. May be added to KV plan if funds exist before sale closure. May also be funded with appropriated money if needed.*
- If current natural barriers are made ineffective with the development of skid trails, new fence locations would be identified on a sale area basis. Fences would be constructed as necessary to ensure allotment rotations are in compliance with individual AMP's and AOI's. *To be determined after harvest operations by Range and Timber Teams. Natural barriers are expected to exist after harvest.*
- The Dry Creek Stock Driveway will be kept open and free of obstruction during harvest operations. *No harvest operational units are within or adjacent to the Dry Creek Stock Driveway with this sale.*

Noxious Weeds

- The timber purchaser will be required to clean all logging and construction equipment that operates off roads prior to entry to the project area. *Provision B6.35- "Equipment Cleaning" is in this contract requiring all off road equipment be cleaned and inspected before moving to sale area.*
- Haul routes and highly disturbed areas, such as landings, will be treated for noxious weed infestations as needed for five years following harvest. *Noxious weed spraying along roads, landings and skidtrails has been identified in the KV plan or will be funded with appropriated dollars.*
- All organic material used for rehabilitation: seed, straw, erosion control material, etc., will be certified weed free. *C6.602#- "Protection of Disturbed Areas from Establishment of Noxious Weeds" is included in this contract and specifies the seed mixture for rehabilitation.*
- 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. *Borrow material source must be approved by Forest Service before hauling as identified in the Road Package for this sale if needed.*

Timber Resources

- In all sanitation/salvage stands that exceed 50 percent removal of overstory spruce, reforestation surveys will be conducted, and if the survey indicates that Forest Plan stocking Standards will not be met, these stands will be artificially reforested with Engelmann spruce seedlings to meet or exceed Forest Plan Standards. *Reforestation and timber evaluation are planned for in the KV plan after harvest to determine reforestation needs.*
- To reduce beetle habitat within helicopter logging units, all green and/or infested spruce will be long-butted at the landing. These long-butts will be decked and treated within one year of decking. *Helicopter logging units do not exist within this sale.*
- To reduce beetle habitat within conventional logging units, all green and/or infested spruce material 6 inches diameter and larger will be yarded and decked at the landing. This material will be treated within one year of decking. *This pdc has been waived for salvage operations per District Ranger approval. See 02/25/2014 e-mail response from Andrea Jones.*
- To protect soil, leave trees, and regeneration, tractor skid roads will be located and approved in advance of falling. Logs will also be skidded with the leading end free of the ground to reduce ground disturbance. C6.42#- *“Skidding and Yarding”* and C6.411#- *“Falling and Bucking”* is included in this contract designating skidtrail spacing and directional felling.
- Spruce beetle trap tree areas will be identified within Shelterwood/Group selection units. Trap trees within beetle trap areas will be felled in advance of logging the adjacent timber. *This pdc does not apply to Salvage operations, only Shelterwood/Group selection green treatments.*

Aquatic Resources

- In tractor harvest units, no harvest equipment or skid trails will be allowed within the water influence zone (WIZ - 100 horizontal feet from the top of each stream bank) of all intermittent or perennial stream channels. Skid trail crossings within the WIZ of all streams including ephemeral will be minimized and must be approved by the sale administrator. Heavy equipment may enter the WIZ if protected by at least 1 foot of packed snow or 2 inches of frozen soil. C6.50#- *“Streamside Management Zones”* is included in this contract and identifies how SMZ (WIZ) are marked on the ground. Sale Area Map also identifies SMZ's. C6.42#- *“Skidding and Yarding”* states skid trails must be approved in advance of falling.
- Within the WIZ of ephemeral stream channels, harvest equipment can operate to remove trees. However, no skid trails are allowed in the WIZ and mechanical ground disturbance in or immediately adjacent to channels (within 25 ft) must be avoided. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- “Streamside Management Zones.”*
- Within the WIZ of perennial and intermittent streams of tractor units, a no cut buffer of 50 feet will be maintained from each channels edge. In the outer 50 feet of the WIZ, no more than 50% of any tree diameter class will be removed and a one-end log suspension as required by the WCP

handbook must be maintained when trees are removed. Trees whose removal may result in increased sedimentation or negative impact to riparian vegetation will not be harvested (i.e. steep topography, wet or riparian areas). Trees leaning towards the stream channel will not be taken. Only those trees that are in flat, dry areas or where land slope is away from stream channels can be harvested. These trees will be take-tree (individual tree) marked prior to harvest in each sale unit. Recent beetle-hit trees will be the main target of this activity. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."*

- Within the WIZ of ephemeral channels, trees within the defined channel/swale area may not be harvested. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."*
- In proposed helicopter logging units, trees may be harvested within the WIZ of intermittent/perennial stream channels, as long as removal will not create disturbances within or on slopes above the creek that could deliver sediment to the streams. The same limitation of 50% harvest in the outer 50 feet of the WIZ also applies to helicopter units along intermittent and perennial streams. *Not applicable to this sale.*
- In helicopter units where pre-bunching of logs may occur along intermittent or perennial streams, the same limitations on tree removal within the WIZ for tractor units apply. *Not applicable to this sale.*
- Minimize disturbance during maintenance of existing roads to limit exposure and placement of fresh sediment in ditches that could enter stream courses. Prevent sediment loss from road surfaces and rutting impacts by appropriate hardening such as the use of gravel rock. *C5.31#- "Road Maintenance Requirements" is included in this contract.*
- Existing roads will be evaluated to identify erosion and sediment problems so they can be fixed as part of road maintenance operations. Install additional cross drains if needed to divert road drainage into buffer strips and minimize road drainage into stream channels. *Existing roads have been evaluated and road reconstruction is planned to fix sediment problems and cross drains were needed.*
- During temporary road construction and road re-opening activities, direct road drainage near stream crossings to filter strips. To limit sediment input from road segments at road crossings that cannot be directed to adequate filter strips; use timber slash windrows, silt fences, or other sediment control measures placed at the toe of road fill slopes as needed. *Monitoring during re-opening of temp roads and new temporary road construction will take place by Sale Administration Team. Notes made to Sale Administration Team in logging plan.*
- A 100-ft no-cut buffer will be maintained from the edge of wetlands and fens identified in the analysis area. Any new disturbance within 300 feet of these features will avoid impact to shallow groundwater flow. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."*

Soil Resources

- Forest Plan Standards for soil productivity (15% allowable soil impact to activity area), will be achieved through careful design of skid trails, operating during dry seasons or frozen soil conditions, and use of existing skid trails where practical. *C6.42# Skidding and Yarding is included in this contract and states that skid trail spacing must be at least 100 feet apart except where converging. Soil condition will be monitored throughout harvest operations.*
- Keep at least 50% of the fine slash (<3 inch diameter) in the forest stand as directed by the Forest Plan, scattered throughout the harvest unit. Lop and scatter slash within harvest units to a height of 2 feet or less. The materials should be well distributed throughout the stand and may be deposited on skid trails. Tops are preferred due to the high nutrient content of the needles and small branches. *This objective is addressed by C6.7#- "Slash Treatment."*
- Any seeding of disturbed sites would utilize the Subalpine mix and application prescription. *Seed mix in C6.601# and C6.602# consist of a Subalpine mix.*
- Skidding is not permitted within 100 feet of wetlands and fens. *This objective was addressed during unit layout; see the silviculture prescriptions/marketing guides concerning SMZ designation. No activity is allowed within the SMZ per provision C6.50#- "Streamside Management Zones."*
- Operate heavy equipment for land treatments only when soils are dry, soil moisture is below the plastic limit, or protected by at least 1 foot of packed snow or 2 inches of frozen soil. *C6.42#- "Skidding and Yarding" is included in this contract and states just that.*
- Skid trail spacing would be approximately 100 feet apart, allowing for topographic variation and skid trail convergence. *C6.42#- "Skidding and Yarding" is included in this contract and states just that.*
- Subsoiling may be utilized after the sale units are completed on main skid trails, landings and temporary roads where no short term management needs have been identified. *Subsoiling has been identified in the KV Plan. Appropriate funds will be used if needed.*
- To reduce soil disturbance, helicopter landings would be located next to roads and on localized slopes less than or equal to 10%. During operations, appropriate mitigation would be utilized to reduce landing erosion and run-off. *Not applicable to this sale.*

Recreation Resources

- Notify the public of logging activity through media such as local newspapers and the Forest website. *Sale administration team will coordinate with Public Affairs on purchasers plan of operations.*
- No weekend log hauling during Big Game rifle hunting seasons from Friday noon until Sunday midnight. *C6.312# restricts hauling on weekends during hunting season.*
- In the event of winter logging, transportation logistics would be coordinated with Silver Thread snowmobile club concerning public snowmobile routes, parking, and turn-arounds. *Sale Administration team will coordinate with Winter Recreation Staff to inform snowmobile clubs and others of proposed winter operations.*

- Post caution signs at key intersections along the haul route to alert the public to logging activities. *B6.33 shows where logging hauling signs should be posted.*

III. CONDITION OF SALE

A. Planned Cutting Methods

The harvest system for this sale is ground-based – tractor/mechanical harvester on included timber.

B. Regeneration and Sale Area Betterment

Some of the area treated may need to be planted per silvicultural prescriptions. KV funding will be required to achieve reforestation objectives.

C. Slash Treatment

Retain at a minimum 50% of the slash 6 inches in diameter and smaller within the stand; lop and scatter slash to a height of 2 feet or less. All landing slash shall be piled for later burning by the Forest Service. Purchaser shall fell all species equal to or greater than 3 feet in height no meeting minimum diameter specifications for included timber that are damaged beyond recovery by the purchaser's operations. For a complete explanation refer to provision C6.7#.

D. Erosion Control

Following completion of skidding and yarding operations, Purchaser shall seed and fertilize all exposed areas of raw soil which has been designated by the Forest Service on skid trails, landings, firebreaks, slides, slumps, temporary roads and traveled ways of specified roads following closure specified in C5.41#. For a complete explanation refer to provisions C6.601# and C6.602#.

E. Specified New Road Construction & Road Reconstruction

Minor road reconstruction needed and addressed in the Roads Package.

IV. APPRAISAL PREMISE

A. Volume Compilation

A summary of the volume determination is attached.

B. Plan of Operation

Two operating seasons are assumed adequate to complete this sale taking into consideration the amount of volume and closure work.

C. Appraisal Point

Montrose, Colorado, is used by the Forest as the standard appraisal point for timber sold from the Forest.

D. Adjustments

Adjustments were made for deteriorating live timber and for dead volume. Calculations are in Appendix G.

V. APPRAISAL SUMMARIES

See the attached 2400-17 Appraisal Summary. Appraisal Bulletin used for this appraisal = BU230214

VII. VOLUME & COST CALCULATIONS

Sale Volume Summary - Appendix A
Sale Unit Volume Summary – Appendix B
Road Maintenance Cost – Appendix C
Haul Cost – Appendix D
Temporary Road Calculation – Appendix E
Average Skid Calculation – Appendix F
Unusual Adjustment Calculation – Appendix G
Performance Bond Calculation – Appendix H
Bid Guarantee – Appendix H
Fire Liability (AT15) – Appendix H
Slash Treatment Plan – Appendix J
KV Calculations – Appendix K
Salvage Sale Fund Costs – Appendix L
Live and Dead Calculations – Appendix M

Sale Name:	Jasper Creek Salvage Timber Sale		
Stars Number:	14301	Sale QMD:	14.2
TEA Number:	1	Sale Ave Diameter:	13.6
Sale Acres:	341	MBF:CCF	0.5018
Gross Acres:	1933		

CONTENTS

	<u>/ccf cost</u>	<u>total cost</u>
<u>Sale Haul Cost</u>	\$ 103.32	\$ 792,046.46
<u>Sale Haul Miles</u>	214	
<u>Sale Round Trip Minutes</u>	914	
<u>Sale Slash Cost</u>	\$ 0.37	\$ 2,836.00
<u>Sale Road Maint Cost</u>	\$ 7.67	\$ 58,785.13
<u>Sale Temp Road Cost</u>	\$ 1.61	\$ 12,327.90
<u>Average Skid Distance (ft)</u>	589	

Need 17 for following:	
<u>Purchaser Fire Obligation</u>	\$ 1,900.00
<u>Performance Bond</u>	\$ 4,700.00
<u>Bid Gaurantee</u>	\$ 3,900.00

Appendix A

Jasper Creek Salvage Timber Sale

9-Apr-14

From CP1 Report

Volume Calculations

Strata	SPPS	Gross Volume BDFT	Gross CUFT	Net Volume BDFT	Net CUFT	Net Volume MBF	CCF	# Of Trees	Net BF/CF
1	ESD	397,969	79,125	193,323	38,579	193.3	385.8	2420	5.01109412
	ESR	4,717,752	937,308	3,639,376	723,661	3639.4	7236.6	33915	5.02911722
	ESL	18,458	5,510	14,461	4,372	14.5	43.7	931	3.30763952
		5,134,179	1,021,943	3,847,159	766,612	3,847	7,666	37,267	5.018

Sawtimber		*CCF		Base Rates	
Recent	ESR	7236.6	94%	\$ 5.00	\$ 36,183.05
Dead	ESD	385.8	5%	\$ 5.00	\$ 1,928.95
Live	ESL	43.7	1%	\$ 5.00	\$ 218.60

Total		QMD
Acres=	341	14.2
Total		Mean
Trees=	37267	DBH
		13.6
Volume	CCF	MBF
Per Acre	22.5	11.3
Volume	CF	BF
Per Tree	20.57	103.23

Total	7666	100%	\$ 38,112.00
			\$ 4.97

ESR	7236.6	94%	\$ 5.00	\$ 36,183.05
ESD	385.8	5%	\$ 5.00	\$ 1,928.95
ESL	43.7	1%	\$ 5.00	\$ 218.60
Total	7666	100%	\$ 38,330.60	
Ave. Rate			\$ 5.00	

Species/Product	CCF	MBF	QMD	MBF/CCF Ratio
ESR/01	7237	3616	14.2	0.5018
ESD01	386	192	14.2	0.5018
ESL01	44	38	14.2	0.5018

volume

Jasper Creek Salvage Timber Sale

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Unit Volume Summary

total net ccf 7666

Unit	Product	Species	Volume	Est # Trees
2	01	ES&O	47.17	229
Acres				
0.62%				
Total/unit			47.17	229
<hr/>				
Unit 12	01	ES&O	3104.18	15090
Acres				
138				
40.49%				
Total/unit			3104.18	15090
<hr/>				
Unit 15	01	ES&O	1273.57	6191
Acres				
57				
16.61%				
Total/unit			1273.57	6191
<hr/>				
Unit 16	01	ES&O	624.43	3035
Acres				
28				
8.15%				
Total/unit			624.43	3035
<hr/>				
Unit 2	01	ES&O	2259.53	10985
Acres				
101				
29.47%				
Total/unit			2259.53	10985
<hr/>				
Unit 3	01	ES&O	357.14	1736
Acres				
16				
4.66%				
Total/unit			357.14	1736
<hr/>				
Total/Sale			7666	37266
341				
100%				

unit volume

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Jasper Creek Salvage Timber Sale
Dead and Live Volume Calculations

Per Regional Office Direction for Selling Dead Timber (letter dated August 11, 2004)
 Live and Dead sawtimber of each species will be appraised and scaled as one contract
 group, "Live and Dead Sawtimber"

For this Sale, all Live trees marked and cruised are classified as "Recent Dead" since
 they have been infested with spruce beetles.

Cruised Volume CCF		
ESR	7236.6	94%
ESL	43.7	1%
Dead	385.8	5%

Assume sale award March 31, 2014 and termination date December 31, 2019
 So, sale contract midpoint is estimated to be July 15, 2017 for normal operating
 season.

Appraiser Estimates that 50% of Live and 100% of the Recent will be dead at
 Midpoint of Contract

$$0.50 \times 44 = 21.9 \quad \text{CCF of Live at Midpoint}$$

$$1.0 \times 7237 = 7236.6 \quad \text{CCF of Recent at Midpoint}$$

$$\text{Total Dead at Midpoint is } 7236.6(R) + 21.9(L) + 385.8(D) = 7644 \quad \text{CCF Total}$$

So, Appraise 7644 Ccf as Dead Sawtimber
 Appraise 22 Ccf as Live Sawtimber
 7666 CCF Total Live and Dead ES sawtimber

Jasper Creek Salvage Timber Sale
Road Maintenance

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Pre Haul Maintenance			
Road Number	Termini	Haul Miles	
329	0.00 to 4.1	4.1	
334	0.00 to 3.3	3.3	
334.2A	0.00 to 0.75	0.75	
334.2B	0.00 to 0.24	0.24	
334.2C	0.00 to 0.31	0.31	
334.2D	0.00 to 0.68	0.68	
334.2E	0.00 to 0.35	0.35	
	Total Miles	9.73	
	\$500/mile		\$4,865.00
	Cost per CCF		0.63

Regular & Post Haul Maintenance			
Road Number	Termini	Haul Miles	
14	0.00 to 6.1	6.1	
329	0.00 to 4.1	4.1	
334	0.00 to 3.3	3.3	
334.2A	0.00 to 0.75	0.75	
334.2B	0.00 to 0.24	0.24	
334.2C	0.00 to 0.31	0.31	
334.2D	0.00 to 0.68	0.68	
334.2E	0.00 to 0.35	0.35	
	Total Miles	15.83	
	.17/mile/cdf+POH of 31.54%		\$ 27,136.67
	Cost per CCF		3.54

Road Maintenance Deposits			
Road Number	Termini	Haul Miles	
NONE			
			Total Miles
		0	\$ -
	.17/mile/cdf+FSOH of 15%		
	Cost per CCF		

Surface Rock Replacement Deposits			
Road Number	Termini	Haul Miles	
14	0.00 to 6.1	6.1	
329	0.00 to 4.1	4.1	
	Total Miles	10.2	
	.22/cdf/mile+FSOH of 15%		\$ 19,782.88
	Cost per CCF		2.58

Snow Removal		Banks only	
Road Number	Termini	Haul Miles	
14	0.00 to 4.5	4.5	
329	0.00 to 4.1	4.1	
334	0.00 to 3.3	3.3	
334.2A	0.00 to 0.75	0.75	
334.2B	0.00 to 0.24	0.24	
334.2C	0.00 to 0.31	0.31	
334.2D	0.00 to 0.68	0.68	
334.2E	0.00 to 0.35	0.35	
	Total Miles	14.23	
	Total Trips	2	
	Estimated cost per mile	\$ 187.00	from LLC est.
	Total Purchaser OH	31.54%	

Estimating 2 seasons, one trip per season

	Cost per CCF	
Total Road Maintenance	\$	0.91
Snow Removal	\$	4.17
Road Maintenance Blading	\$	0.91
Surface Rock Replacement	\$	2.58
	\$	7.57

road maintenance

Appendix D

Haul Cost Calculation Sawtimber
 Appraisal point for conifer is
 Montrose, CO
 4/9/2014 11:55

Jasper Creek Salvage Timber Sale

Road Number	Termini	Round Trip Travel Time	Haul Miles	Haul Class	% Grade	% Volume	Round Trip % increase	Round Trip Time min/mi	Weighted Haul Miles
US 50	Hwy 114 to Mill	262.8	73	2B1	0	100	-	3.6	73.000
Hwy 114	285 to US 50	260.4	62	2C1	0	100	-	4.2	62.000
US 285	112 to Hwy 114	84.6	23.5	2B1	0	100	-	3.6	23.500
Hwy 112	Jct 160 to 285	47.16	13.1	2B1	0	100	-	3.6	13.100
US 160	Jct FSR14 to Hwy 112	49.68	13.8	2B1	0	100	-	3.6	13.800
FSR 14	Int FSR 14 to 160	67.86	11.7	3C1	-2	100	-	5.8	11.700
FSR 14 (unpaved)	14 unpaved to FSR 14 F	35.38	6.1	3C2	-6	100	-	5.8	6.100
329	329 to FSR 14	23.78	4.1	3C2	-1	100	-	5.8	4.100
334	334/329 to 329	19.14	3.3	3C2	-2	100	-	5.8	3.300
Temp 1	End to Int 334	0.97461	0.91	4B3	-1	21	-	5.1	0.191
Temp 2	End to Int Temp 1	1.02	1	4B3	-5	20	-	5.1	0.200
334.2A	End to Int 334	0.95625	0.75	4B3	-2	25	-	5.1	0.188
334.2B	End to Int 334.2A	0.01224	0.24	4B3	-3	1	-	5.1	0.002
334.2C	Ent to Int 334	0.2652	0.26	4B3	-3	20	-	5.1	0.052
334.2E	End to Int 334	0.1326	0.26	4B3	0	10	-	5.1	0.026
334.2D	End to Int 334	0.17	0.25	4B3	6	10	-	6.8	0.025
		854.33	214.27						211.284
	Delay Time	60							
14.2 hours		914	Min X	0.113	<u>/ccf/min=</u>				
				0.17					

\$ 103.32 per CCF sawtimber

haul

9-Apr-14

Jasper Creek Salvage Timber Sale
Temporary Road Cost Calculations

Road #	Miles	KM	Construction Needs
Temp 1	0.91	1.47	Blade and shape with cat, earth barriers for closure
Temp 2	1	1.61	Blade and shape with cat, earth barriers for closure
Total	1.91	3.08	

Open existing brushed in / slashed in temp roads

Temp 1, 2	Miles	KM	Cost/mile (from temp road worksheet)
	1.91	3.08	
			X
			\$ 966.81 = \$ 1,846.61

Culvert Installation

Temp 1, 2	Type of Culvert	Install cost (Includes Excavation)
	1 - 32" X 19" CMP at \$53.50/LF	= \$ 1,016.50
	1 - 36" X 30" CMP at \$65.60/LF	= \$ 1,968.00
		= \$ 2,775.59

TOTAL TEMP PRE-USE COSTS

\$ 4,622.20

Obliterate existing temp road

Temp 1, 2	Miles	KM	(Cost includes seeding and obliteration)	(Estimate for const. per mile)
	1.91	3.08		
			1.91	X
			\$ 3,515.89	(Estimate for const. per mile)
				\$ 6,715.35

	Qty	Rate	Total
Waterbars	67	\$ 672.27	one per 150' w/ 10084' total
Earth Barriers	2	\$ 80.63	20 min./earth barrier
		<u>\$ 752.89</u>	

POH 31.54% \$ 237.46
TOTAL TEMP POST-USE COSTS

\$ 7,706

TOTAL ROAD USE COST
COST PER CCF

\$ 12,327.90
\$ 1.61
7666 ccf

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Jasper Creek Salvage Timber Sale Average Skid Distance

Cutting Unit	AV Skid Dist (ft)	Weave Adjust Factor	Adjusted Average Skid Dist (ft)
1	215	1.15	247
2	550	1.15	633
3	540	1.15	621
12	485	1.15	558
15	485	1.15	558
16	567	1.15	652

Average Sale Yarding Distance

Cutting Unit	Adjusted Skid Distance (ft)	Weight (volume ccf)	Wt'd Distance
1	247	47	11621
2	633	2260	1429450
3	621	357	221697
12	558	3104	1731256
15	558	1274	710574
16	652	624	406879
		<u>7666</u>	<u>4511476</u>

Average Yarding Distance (ft)
(adjusted for weave)

589

ave. skid

Unusual Adjustments Jasper Creek Salvage Timber Sale
 9-Apr-14

Unusual Adjustment for Deteriorating Live

As suggested in the FSH 2409.22, Chapter 51.6, Appraisal Handbook is a reduction of lumber selling value based on the WWPA Index. The unusual adjustment for deterioration of live timber is the amount of selling value reduction due to blue stain, worm holes, etc. An estimated 20% reduction of lumber selling value will be used to adjust the live sawtimber.

Index X .2 X cubic conversion = Unusual Adjustment

	ES	
WWPA	367.65	
Reduction	0.2	
MBF/CCF	0.5018	
Adjustment	\$ (36.90)	\$ 36.90

This adjustment is to be applied to the deteriorating Recent Live
 21.9

Unusual Adjustment Factor for Dead Volume

Dead ES 7644 ccf

Multiply the species adjusted base period price from bulletin by .5 for dead unusual adjustment

$\$44.31 \times .5 = \$22.16/CCF$ unusual adjustment for 7644 CCF of dead sawtimber
 \$ 44.31 \$ 22.16

Weighted Average Adjustment for Deteriorating Live Timber and Dead unusual adjustment

$$\frac{(\$22.16/CCF \times 7644 \text{ CCF}) + (\$36.90/CCF \times 22 \text{ CCF})}{7644 \text{ CCF} + 22 \text{ CCF}}$$

\$ (22.20) /CCF total weighted average unusual adjustment for ES

Hauling Fuel Cost Adj

Bulletin No. BU230214 does not adjust for Hauling Fuel Costs or Logging Fuel Costs

$$= +\$0.002/CCF/Mile$$

$$= \$ \quad \quad \quad /CCF$$

Logging Fuel Cost Adj.

$$= +\$0.76/CCF$$

$$= \$ \quad \quad \quad /CCF$$

TOTAL UNUSUAL ADJ.

\$ (22.20) /CCF

9-Apr-14

Jasper Creek Salvage Timber Sale

Total Advertised Value

Species	Vol Ccf	Advertised Rates	Value
ALL	7666	\$5.00	\$ 38,330.00 <--From 2400-17

Bid Guarantee - Cash Deposit

10% of Total Advertised Value \$3,833.00
 Rounded to next \$100 \$3,900.00

Minimum Performance Bond

10% of the Bid Value rounded up the next \$ 100 if Total Sale Value is \$10,000 or less or rounded up to the next \$1000 if Total Sale Value is greater than \$10,000 (FSH2409.18-54-1)
 10% of Total Advertised Value \$3,833.00
 Rounded to next \$1000 \$4,000.00

2nd Method - Based on Penal Sum

All cost are based on Region 2, 3, & 4 Cost Estimate Guide (3/2013)

Road Maintenance

Estimated Miles of Road Maintenance 15.8 miles
 Grader + Operator/hr \$103.57 /hour
 Subtotal 1 \$1,639.51
 Mobilization Cost 12% \$196.74 mobilization \$1,639.51

Subtotal 2 \$1,639.51 x TPOH 1.3154 \$2,353.36
 1 GS-11 to administer/day \$253/day x days .25 days \$63.25
 1 4x4 PU/mile \$.57 /mile 130 miles \$74.10
 1 4x4 PU/day (FOR) \$17/day .5 day \$8.50
 subtotal \$145.85
 \$145.85 x FSOH 1.1129 \$162.32

Total Road Maintenance \$2,515.67

Closure of Skidtrails (water bar, pulling slash, etc)

Appraiser estimates a D-6 Cat can close skid trails in 3 hrs.
 D-6 cat / hour \$105.46 /hr 3 hrs \$316.38
 D-6 operator /hr \$15.08 /hr 3 hrs \$45.24
 subtotal \$361.62
 \$361.62 x TPOH 1.3154 \$475.67

Total Closure of Skidtrails \$475.67

Erosion Control Landings and skidtrails

perform

7.5 acres of landings and 4.13 acres of skidtrails

Recommended Seed Mix

Species	% Mix	PLS lbs/ac	\$/lb	\$/ac
Slender wheatgrass (san juis)	31%	5.2	\$6.25	\$32.50
Sodar Streambank Wheat Grass	20%	3.4	\$7.75	\$26.35
Bromar Mountain Brome	49%	8.2	\$8.00	\$65.60
Total Cost/ Acre				\$124.45

Total Cost of Seed	<u>Acres</u>	\$1,447.35
	11.63	

1 GS-7 cost/day	\$171/day	<u>Qty</u>	\$25.65
1 4x4 PU/mile	\$45 /mile	100	\$45.00
1 4x4 PU/day (FOR)	\$17/day	0.25	\$4.25
		subtotal	\$1,522.25
	\$1,522.25	1.1129	\$1,694.12
	x FSOH		

Total Erosion Control \$1,694.12

Total Performance Bond Base on Penal Sum \$4,685.46
 Rounded to next \$100 **\$4,700**

Purchaser Fire Obligation For SP34 \$1,879.20
 3 people x \$17.40/hr (AD-C) x 12 hrs x 3 days
 rounded to the next \$100 **\$1,900.00**

(AD-C rate from FSH 5109.34-2002-1 13.6 Exhibit 01)

perform

Slash Treatment Plan

Jasper Creek Salvage Timber Sale

9-Apr-14

All slash will be lopped and scattered down to 2 feet.
Cost are included in the TEA average cost.

Area treated:

341 acres

All Landing slash will be burned by Forest Service.

Estimate 7.5 acres of landings will need to be burned -->
30 Landings @ approx .25 ac / landing

7.5

Labor

GS Level	Rate/Day	# of Days	Total Cost
1 GS-11	\$253.00	1	\$253.00
1 GS-7	\$171.00	3	\$513.00
1 GS-5	\$138.00	3	\$414.00
Total Labor			\$1,180.00

Equipment

Mileage	Miles/day	# of days	Total Cost
\$0.45	150	2	\$135.00
FOR 250	FOR/day 8.33	# of days 2	\$16.67
Total Equip.			\$151.67

Misc Supp (Fuel & Tools)

Sub Total \$1,406.67
District Overhead 15% \$211.00

Total \$1,617.67
Rounded next \$10 \$1,620.00

W/ Inflation and OH --> Treatment cost / Acre \$216.00 **Total**
Treatment cost / Acre \$378.13 \$ 2,836.00
 Inflation = 2% and OH = 41.3%

Total Appraisal Cost \$ 2,836.00
 Total Appraisal Cost / Ccf \$0.37 TOTAL
 Required Deposit \$ 2,836.00
 Required Deposit / Ccf \$0.37 DEPOSIT

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Jasper Creek Salvage Timber Sale

KV Calculations

Treatment	Activity Code	Cost per Unit	No. of Units	Total Costs	Units Financed	Cost Finance	With FSOH/rounded	Priority
Stocking Survey	4341	\$12.14	341	\$4,141	341	\$4,140	\$5,673	1
Stocking Survey	4341	\$12.63	299	\$3,776	299	\$3,776	\$5,173	1
Plantation Survival Survey	4342	\$12.63	43	\$543	43	\$543	\$744	1
Plantation Survival Survey	4342	\$13.15	43	\$565	43	\$565	\$774	1
Tree Planting	4431	\$758.13	45	\$34,116	23.1	\$17,513	\$23,993	1
Noxious Weed Treatment Year 1	2510	\$425.08	38	\$16,577	0	\$0	\$0	2
Noxious Weed Treatment Year 2	2510	\$433.57	15	\$6,503	0	\$0	\$0	2
Noxious Weed Treatment Year 3	2510	\$442.23	13	\$5,749	0	\$0	\$0	2
Noxious Weed Treatment Year 4	2510	\$451.08	3	\$1,353	0	\$0	\$0	2
Noxious Weed Treatment Year 5	2510	\$460.11	1	\$460	0	\$0	\$0	2
Subsoil Skid Trails and Landings	5217	\$502.27	11	\$5,524.97	0	\$0	\$0	3
Total				\$79,308.73		\$26,537.45	\$36,357	

Essential KV \$5,673
 Total KV Financed \$36,413 Value pulled from KV Plan

Total Sale Value \$38,330.00
 Funded SSF \$0.00
 NFF Minimum \$1,916.50
 Available For All KV \$36,413.50

Condition Surveys

Walk through surveys determining if areas will need site prep or artificial regeneration. Estimate 1 GS-5-7 days to perform actual surveys.
 1 GS-9 to do planning and input data into data base. Estimate Acres of Walk Through surveys are 342 acres

Labor	GS Level	Rate/Day	# of Days	Total Cost
	1 GS-9	\$209.00	2	\$418.00
	1 GS-5	\$138.00	7	\$966.00
Total Labor				\$1,384.00
Equipment	Mileage	Miles/day	# of days	Total Cost
	\$0.45	50	2	\$45.00
Misc Supp	FOR	FOR/day	# of days	Total Equip.
	\$ 233.00	\$7.66	2	\$15.32
Sub Total				\$1,469.32
15% District Overhead				\$220.40
Total				\$1,689.72
Rounded next \$10				\$1,690.00
Treatment cost / Acre				\$4.96

Noxious Weeds

Noxious weed spraying will occur in the 1st and 3rd year after harvest on disturbed areas such as landings, roads, and skidtrails.

Assume 39 acres of skid trails and landings 39 From Jasper Silvicultural Rx
 Total Acres need for 1st year spraying 39

Average District cost per acre is approximately \$350/acre (KV Regional cost guide)

1st application: \$350 per acre x 39 acres	\$13,650.00
District OH @ 1	\$2,047.50
Total Cost	\$15,697.50
Rounded to ne	\$15,700.00
Cost/acre	\$402.56
2nd application: \$350 per acre x 15 acres	\$5,250.00
District OH @ 1	\$787.50
Total Cost	\$6,037.50
Rounded to ne	\$6,040.00

Appendix K

Cost/acre	\$402.67
3rd application: \$350 per acre x 13 acres	
District OH @1:	\$4,550.00
Total Cost	\$682.50
Rounded to ne	\$5,232.50
Cost/acre	\$5,240.00
4th application: \$350 per acre x 3 acres	
District OH @ 1	\$1,050.00
Total Cost	\$157.50
Rounded to ne	\$1,207.50
Cost/acre	\$1,210.00
5th application: \$350 per acre x 1 acre	
District OH @ 1	\$350.00
Total Cost	\$52.50
Rounded to ne	\$402.50
Cost/acre	\$410.00

Tree Planting

Acres	45	\$	600 per Acre	Forest Estimate
\$ 27,000 Total cost of tree Planting				

Subsoil Skid Trails and Landings

Forest Hydrologist Project Cost Estimate.				
Acres (Landing and Skid trails)	\$	10.95		
Cost Per Project	\$	4,000.00		Forest hydrologist estimates 1 wk use; Covers post-subsoil seeding cost
Cost Per Acre	\$	365.30		

Jasper Creek Salvage Timber Sale
9-Apr-14

Salvage Sale Fund Plan Narrative

Salvage volume for this sale is 100% of the sale volume.

Salvage Volume

7666 ccf

Cost calculations and assumptions are based on funding for salvage sale prep and admin for FY 13.

	\$/CCF	CCF	Total Cost
Preparation:		7666	
Administration	\$25.57	7666	\$196,019.62
Engineering	\$8.50	7666	\$65,161.00
Other Resources	\$9.00	7666	\$68,994.00
Subtotal	\$5.00	7666	\$38,330.00
Indirect Cost	\$48.07		\$368,504.62
Inflation (2% per year from TIM)	62.2%		\$229,209.87
Total CCF	2.0%	7666	\$621,862.16
	\$ 81.12		\$621,865.92
50% Additional Collection			\$310,932.96
Surcharge	\$/CCF	7666	\$0.00
	\$0.00		
Total Sale Planned Collection			\$932,799
National Support 62.3%			\$581,134
Total Sale Value			\$38,330.00
Funded KV			\$36,413.50
25 cents per ccf (min NFF)			\$1,916.50
Available for SSF			\$0.00
Max Collection			\$1,513,934