

Stone Shoup Commercial Thinning Decision Document

Box of Rocks Commercial Thinning and Density Management Environmental Assessment

DOI-BLM-OR-R050-2010-0015-EA

Bureau of Land Management
Swiftwater Field Office, Roseburg District

Background

The Box of Rocks Commercial Thinning and Density Management Environmental Assessment (EA), of which Stone Shoup Commercial Thinning is a component, proposed to apply uniform and variable density thinning to approximately 1,650 acres in the General Forest Management Area, Connectivity/Diversity Block, Riparian Reserve, and Late-Successional Reserve land use allocations.

The analysis was conducted and the project designed to conform to management direction from the 1995 Roseburg District *Record of Decision and Resource Management Plan* (ROD/RMP) as amended prior to December 30, 2008.

Additional Information

Threatened and Endangered Species

Survey and Manage

In ruling on Conservation Northwest et al. v. Mark E. Rey et al. on December 12, 2009, Judge Coughenour in the U.S. District Court for Western Washington set aside the 2007 Record of Decision eliminating the Survey and Manage mitigation measures, but deferred issuing a remedy until further proceedings. Judge Coughenour did not set aside the Pechman exemptions, or enjoin the BLM from proceeding with projects.

The plaintiffs and Federal Agencies entered into settlement negotiations in April 2010, and the Court filed approval of the resulting Settlement Agreement on July 6, 2011. The 2011 Settlement Agreement makes four modifications to the 2001 ROD: (A) acknowledges existing exemption categories (2006 Pechman Exemptions); (B) updates the 2001 Survey and Manage species list; (C) establishes a transition period for application of the species list; and (D) establishes new exemption categories (2011 Exemptions).

Judge Pechman's Order from October 11, 2006 directs: "Defendants shall not authorize, allow, or permit to continue any logging or other ground-disturbing activities on projects to which the 2004 ROD applied unless such activities are in compliance with the 2001 ROD (as the 2001 ROD was amended or modified as of March 21, 2004), except that this order will not apply to:

- a) Thinning projects in stands younger than 80 years old;

- b) Replacing culverts on roads that are in use and part of the road system, and removing culverts if the road is temporary or to be decommissioned;
- c) Riparian and stream improvement projects where the riparian work is riparian planting, obtaining material for placing in-stream, and road or trail decommissioning; and where the stream improvement work is the placement of large wood, channel and floodplain reconstruction, or removal of channel diversions; and
- d) The portions of project involving hazardous fuel treatments where prescribed fire is applied. Any portion of a hazardous fuel treatment project involving commercial logging will remain subject to the survey and management requirements except for thinning of stands younger than 80 years old under subparagraph (a) of this paragraph.”

Forest stands that will be treated are 40-to-55 years-of-age (EA, p. 30). All new road construction, whether located within or outside of unit boundaries, is sited in stands less than 80 years old. Consequently, this project complies with Pechman exemption “a.”

Carbon Release and Sequestration

In May of 2011, a study on the effects of thinning and biomass utilization on carbon release and storage was published by Oregon State University.¹ The conclusions of the Box of Rocks Commercial Thinning and Density Management EA were reviewed against findings of the study. Among the findings of the study were:

- Forest carbon pools always immediately decreased as a result of thinning, with reductions increasing as a function of heavier thinning.
- After thinning, carbon pools remain lower throughout a 50-year period.
- Carbon pool estimates for thinned stands remained lower even after accounting for carbon transferred to wood products.

None of these findings are inconsistent with the findings of the Box of Rocks Commercial Thinning and Density Management EA.

The findings of the EA are consistent with published findings that carbon pools immediately decline following thinning, and remain lower 50 years after thinning (Table 3-11 p. 80). Under No Action, the carbon pool in standing live trees grows from current balance of 157,130 tonnes to 600,135 tonnes. By comparison, under Alternative Two carbon in standing live trees is immediately reduced to 108,756 tonnes post-harvest, and 50 years after thinning is 428,374 tonnes, approximately 29 percent less than under No Action.

The EA (p. 81) also notes that Smith et al. (2006)² calculated that 13.5 percent of gross saw log carbon and 14.8 percent of gross pulpwood carbon would be immediately released into the

¹ Clark, J., J. Sessions, O. Krankina, T. Maness. 2011. Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis. College of Forestry, Oregon State University. Corvallis, OR.

² Smith, J.E., L.S. Heath, K.E. Skog, and R.A. Birdsey. 2006. Methods for calculating forest ecosystem and harvested carbon with standard estimates for forest types of the United States. Gen. Tech. Rep. NE-343. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 216 p

atmosphere at harvest. This is consistent with the finding that not all carbon from harvested timber is transferred into wood and paper products.

Decision

It is my decision to authorize the Stone Shoup Commercial Thinning project, continuing implementation of Alternative Two described in the Box of Rocks Commercial Thinning and Density Management EA (pp. 15-26). The project design features described in the EA (pp. 15-26, 65) will be incorporated into timber sale contract stipulations. The project will treat approximately 334 acres in the General Forest Management Area and Connectivity/Diversity Block land use allocations, and 45 acres in the Riparian Reserve land use allocation.

Approximately 0.97 miles of new road will be constructed, 0.69 miles of which will be surfaced and retained for future management access. The remaining 0.28 miles of temporary construction will be decommissioned after use. Approximately four acres, 64 percent of which is located within unit boundaries, will be cleared for the road rights-of-way. Optional spur roads are authorized in Units 1, 6, and 10 to be constructed at the Purchaser’s expense, and decommissioned after use.

A total of ten units will be treated (see attached maps). Total harvest volume is estimated at 6,837 thousand board feet. Approximately 6,022 thousand board feet derived from thinning in the General Forest Management Area and Connectivity/Diversity Block land use allocations is chargeable to the Roseburg District annual allowable sale quantity. The remaining 815 thousand board feet derived from thinning in 45 acres of Riparian Reserves is not chargeable to the annual allowable sale quantity. Unit numbers and corresponding EA designations are as follows.

Sale Unit	EA Unit Designation	Unit Acres	Harvest Method
Unit 1	25-2-17H	6	Cable/Ground-Based
Unit 2	25-2-17H	16	Cable
Unit 3	25-2-17F	71	Cable/Ground-Based
Unit 4	25-2-17C	49	Cable/Ground-Based
Unit 5	25-2-7D	53	Cable
Unit 6	25-2-7D	64	Cable/Ground-Based
Unit 7	25-2-7E	32	Cable/Ground-Based
Unit 8	25-2-7B	25	Cable/Ground-Based
Unit 9	25-2-7G	11	Cable/Ground-Based
Unit 10	25-2-7F	52	Cable

Prior to move-in, all equipment used in logging and road construction, excluding log trucks and crew transport, will be steam-cleaned or pressure washed to remove soil and materials that may be contaminated with weed seed or root fragments. Any equipment removed from the contract area during the life of the contract must be re-cleaned before being returned to the contract area.

Ground-based yarding equipment will operate on designated skid trails, using pre-existing trails to the greatest extent practicable. Operations will be limited to the dry season, typically mid-May to mid-October, when soils are at their driest and least susceptible to compaction. This

season may be shortened or extended, dependent on weather conditions. Operations are generally restricted to slopes of 35 percent or less, but may be authorized on steeper inclinations and steeper pitches between gentler benches where appropriate.

Conventional ground equipment will be allowed, excluding feller bunchers. Soils in Units 6, 7 and 8 contain large gravels and cobbles in the subsoil, so subsoiling in these units will be 10 to 14 inches to prevent mixing of large gravels and cobbles with surface soils. Subsoiling in Units 1, 3, 4, and 9 will be a minimum depth of 18 inches. Feller bunchers are excluded because they can create a higher percent of main skid trails with deeper compaction. The deep compaction areas would not be treatable because of the gravel/cobble layers.

For cable yarding, a skyline system capable of maintaining a minimum of one-end log suspension will be used. It shall be equipped with a mechanical slack pulling carriage having a minimum of 100 feet of lateral yarding capability, have a maximum spar height of 40 feet, and a maximum power rating of 225 horsepower. The system shall also have the capability to yard in multi-span configuration.

With the exception of the clearing of road rights-of-way, no timber falling, bucking or yarding shall be conducted during the bark-slip period from April 15 to July 15 of each calendar year, both days inclusive. This restriction may be waived depending upon seasonal variations, logging systems, and operator skill.

Access will be primarily provided by existing roads, supplemented by the construction of up to eleven spur roads. Six of the spur roads (0.69 miles), will be surfaced to afford winter operating opportunities. Road construction (0.97 miles), renovation (0.82 miles), and improvement (0.08 miles) is restricted to the dry season, typically mid-May to mid-October. This season may be shortened or extended, dependent on weather conditions.

Road 25-3-12.0 and spurs 4, 5, and 8 (see attached maps) will be constructed and used for harvest operations during dry operating conditions between May 15 and October 15, then decommissioned in the same respective operating season. Spur 9 (0.17 miles) will be renovated and used for harvest operations during the dry operating season between May 15 and October 15, then decommissioned in the same respective operating season. Decommissioning will consist of water-barring, removing culverts, slashing, and obstructing motorized access. If it is not possible to decommission these roads at the end of an operating season, the purchaser shall be responsible for winterizing them by water-barring, obstructing motorized access, and mulching.

Public Involvement & Response to Comment

Analysis for the Box of Rocks Commercial Thinning and Density Management EA was begun in June of 2010. Informal scoping comments were received from one organization in October of 2010. These comments were considered and addressed in the EA (pp. 4-10).

The EA was released for a 30-day period of public review and comment beginning on February 22, 2011, and running through March 24, 2011. Comments were received from five organizations, none of which raised issues not already addressed, as noted above, or analyzed in

the EA. One comment did point out an error in the Carbon Storage and Release numbers portrayed in Table 3-11 (EA, p. 80), and is addressed below.

The comment pointed out that the carbon balance of 267,479 tonnes exceeded the pre-harvest total. This figure is correct. The pre-harvest figure was misrepresented as 237,125 tonnes instead of 273,125 tonnes as shown for the existing carbon balance in Alternative One. If one subtracts 5,646 from 273,125 the resulting balance is 267,479.

Rationale for the Decision

Alternative Two will meet the objectives of providing sustainable timber production, reducing stand densities to promote tree survival and growth, and enhancing species and structural diversity in Riparian Reserves. Alternative One will not accomplish these objectives.

Wildlife

Northern Spotted Owl

No effect to northern spotted owls (*Strix occidentalis* var. *caurina*) from noise disruption or disturbance is expected (EA, p. 51). Spot check surveys concurrent with operations are necessary for Units 3, 4, 5, 9 and 10. If spotted owls are detected in the spot check areas, all ongoing operations that have a likelihood of direct harm to a spotted owl and/or creating above-ambient noise shall be postponed until the Unit wildlife biologist is contacted and appropriate protection measures that avoid incidental take are implemented (USFWS 2012, p. 20)³

Northern spotted owls are expected to continue to use the thinned stands after operations are complete because post-treatment canopy closure will remain above 40 percent and the quadratic mean diameter of trees in the stands will exceed 11 inches, figures widely used as a threshold for dispersal function (EA, p. 50). It is acknowledged, however, that northern spotted owls would likely utilize the thinned stands less than unthinned stands until canopy closure returns to pre-thinning levels in a projected 10 to 20 years (EA, p. 50).

In a biological opinion (Tails #: 13420-2011-F-0012), the U.S. Fish and Wildlife Service found that the Stone Shoup Commercial Thinning project, as proposed in the biological assessment, was likely to adversely affect the northern spotted owl, and would result in incidental take based on the following:

- Density management in three units (approximately 61 acres) located in Section 7, T. 25 S., R. 2 W. and Section 17, T. 25 S., R. 2 W., W.M. within the core area of northern spotted owl home ranges 0359O and 0511O where the current level of nesting, roosting, and foraging habitat (suitable habitat) is below the 50 percent viability threshold.
- Removing approximately 0.7 acres of suitable habitat in the core area of northern spotted owl home ranges 0359O and 0511O associated with construction of approximately 0.22

³ USFWS. 2012. Protocol for surveying proposed management activities that may impact northern spotted owls. February 2, 2011 revised January 9, 2012. Pp. 42.

miles (Road No. 25-2-17.3B – 0.2 mi and Optional Spur Road No. 25-3-12.0 – 0.02 mi) of road to access the aforementioned units.

In the final design of this sale, the aforementioned thinning units were reduced from approximately 61 acres to approximately 47 acres of dispersal habitat in northern spotted owl core habitat. There is no treatment of nesting, roosting or foraging habitat.

Northern Spotted Owl Critical Habitat

None of the project area falls within 2008 Critical Habitat (EA, p. 45). Critical habitat was re-designated by the US Fish and Wildlife Service (Service) in 2012. A portion (142 acres, Units 1-4) of the Stone Shoup project is within the 2012 designated northern spotted owl critical habitat (West Cascades South Subunit 6, WCS-6). The Bureau re-initiated consultation for the project and received a letter of concurrence from the Service (Tails # 01EOFW00-2013-IC-0026) on January 3, 2013 stating,

“...the Service concurs with the District’s determination that young stand thinning, salvage, road and quarry related activities as discussed above within the revised spotted owl critical habitat subunits KLE-2, K LW-1, ORC-3, ORC-4, ORC-5, and WCS-6 will not significantly affect the Primary Constituent elements and therefore ***may affect, but are not likely to adversely affect*** 2012 Revised Spotted Owl Critical Habitat within the Action Area.”

Botany Special Status Species

As discussed in the EA (p. 54), the project watersheds are within the range of Kincaid’s lupine (*Lupinus sulphureus* ssp. *kincaidii*), a Federally-threatened herbaceous perennial plant. There will be no direct effect to Kincaid’s lupine, as no populations have been identified in any of the thinning units comprising this project.

No effects on the Federally-Endangered rough popcorn flower (*Plagiobothrys hirtus*) are expected. While the project watersheds are in the geographic range of the species, habitat provided by vernal wet meadows is not present (EA, p. 54).

No Bureau sensitive plant species were located during surveys therefore no affect to Bureau sensitive species is anticipated.

Aquatic Habitat, Fish, and Essential Fish Habitat

Oregon Coast coho salmon (*Oncorhynchus kisutch*), a federally threatened species, are present in Rock Creek, which is designated as critical habitat for the Oregon Coast coho salmon, and Essential Fish Habitat for both the Oregon Coast coho salmon and Oregon Coast Chinook salmon (*O. tshawytscha*).

No direct effects from thinning are expected to Oregon Coast coho salmon, critical habitat for the species, or Essential Fish Habitat (EA, p. 64). Riparian Reserves have been established on all

streams located within or adjacent to the thinning units, and “no treatment” buffer (60 feet on fish bearing streams; 35 feet on non-fish bearing streams) have been established adjacent to the stream channels that will filter sediment and provide effective shade for maintenance of water temperatures.

Potential effects on aquatic systems come primarily from road related activities, which can contribute sediment to streams that can affect substrate for spawning. There are two crossings where haul roads with aggregate surfacing cross fish-bearing streams in the Rock Creek 5th-field watershed, on Road No. 25-2-16.0 in Section 15, T. 25 S., R. 2 W., W.M. The lower crossing is on a stream reach occupied by resident fish and coho salmon (EA, p. 56). Haul over these crossings may contribute small amounts of sediment to streams during and after winter storm events. Application of Best Management Practices (EA p. 25) and project design features (EA pp. 15-26 and 65) will minimize the amount of sediment entering streams. Some sediment may enter streams, however, resulting in elevated levels of turbidity, but not at levels that exceed typical background levels during winter high flows (EA, p. 64).

All maintenance/renovation of existing roads will include application of rock lifts where needed, and grading and brushing to make roads more accessible. All road renovation activities will take place during the dry season of operation and, absent seasonal precipitation, would not contribute sediment to stream crossings that could affect spawning substrate in downstream reaches.

Haul during the dry season would neither generate nor deliver road-derived sediment to live stream channels. Absent substantial precipitation, there would be no mechanism for moving fine sediment from road surfaces into ditch lines and potentially into nearby stream channels. Additionally, absent surface flow, there would be no mechanism by which intermittent streams would transport sediment downstream to fish bearing reaches.

Haul during the wet season could contribute small amounts of fine sediment to stream channels. This would occur at a time of year that sediment is being transported downstream; however some small amount of sediment could become entrained in the spawning substrates, reducing quality of spawning habitat. The remainder of the haul routes are along paved roads and no mechanism exists for sediment to be generated or carried to adjacent stream channels via the ditch line or at stream crossings.

The principal access road to the sale area is the Rock Creek Access Road (Road No. 26-3-1.0). While the road roughly parallels Rock Creek, and is within close proximity to the creek in many locations, it is paved so no road derived sediments would reach Oregon Coast coho salmon critical habitat or Essential Fish Habitat designated for the Oregon Coast coho salmon and Chinook salmon.

Water Quality and Quantity

Riparian Reserves have been established on all streams located within or adjacent to the thinning units, and “no treatment” areas have been established adjacent to the stream channels that will filter sediment and provide effective shade for maintenance of water temperatures.

As discussed in the EA (p. 61), large openings in a forest canopy greater than two tree heights across can affect precipitation, snow melt and peak flows. Thinning in upland stands will maintain 70 to 80 percent canopy cover. Variable density thinning in Riparian Reserves will maintain an average canopy cover of at least 50 percent. Small gaps or openings created by the variable density thinning in Riparian Reserves would not approach the size of openings described above. Consequently, this project does not present a risk to peak flow enhancement.

As discussed in the EA (p. 61), the average road density, an index of the relative amount of road in the analysis area, is 5.13 miles per square mile. Roads under BLM ownership comprise 45 percent of the total road mileage. Based on rights-of-way widths, assumed to be 40-feet on average, roads cover approximately 1,990 acres and represent 3.89 percent of the analysis area. Increases in peak flow can be found when the roads and other impermeable areas contained within occupy more than 12 percent of a catchment scale watershed (Harr, *et al.* 1975).

Aquatic Conservation Strategy

Riparian Reserves were established consistent with the 1995 ROD/RMP (p. 24) specification that Riparian Reserve widths will be equal to the height of two site potential trees on each side of fish-bearing streams and one site-potential tree on each side of perennial or intermittent non-fish bearing streams, wetlands greater than an acre, and constructed ponds and reservoirs. The height of a site-potential tree is calculated as 180-feet for the Canton Creek watershed. Approximately 45 acres of variable density thinning will be conducted in Riparian Reserves on the Stone Shoup Commercial Thinning project. A principal objective for these treatments is to accelerate the development of late-seral characteristics.

Key Watersheds were established “as refugia . . . for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species (ROD/RMP, p. 20).” The Rock Creek watershed, in which Stone Shoup Commercial Thinning is located, is not designated as a Tier 1 Key Watershed (ROD/RMP, p. 20).

In developing the project, the Rock Creek Watershed Assessment⁴ (Winn 2006) was used to evaluate existing conditions, establish desired future conditions, and assist in the formulation of appropriate alternatives.

One of the primary purposes of this project is to accelerate tree growth in Riparian Reserves and speed attainment of late seral stand conditions. The thinning prescriptions are considered to be a watershed restoration project and are therefore consistent with the Watershed Restoration component of the Aquatic Conservation Strategy.

⁴ Winn, Lisa A. Rock Creek Region Assessment and Action Plan. Roseburg, Oregon: Prepared for the Umpqua Basin Watershed Council and Roseburg Bureau of Land Management; 2006 March.

Cultural/Historical Resources

The Stone Shoup Commercial Thinning project was surveyed for cultural resources, and none were identified. The results of the surveys are documented in CRS No. SW1013. The BLM has completed its Section 106 of the National Historic Preservation Act responsibilities under the 2012 National Programmatic Agreement and the 1998 Oregon Protocol. In compliance with the Act, ground-disturbing activities will be halted if cultural resources are discovered until an Archeologist can properly evaluate and document the resources.

Noxious Weeds

As discussed in the EA (p. 27), in the absence of this project, weed control measures will still be undertaken. These actions include inventory of infestations, assessment of risk for spread, and application of control measures in areas where other management actions are proposed or planned. Control measures may include mowing, hand-pulling, and limited use of approved herbicides.

As described on page three of this document, equipment washing is required to minimize the risk of introducing soil from outside the project area that may be contaminated with noxious weed seed or other propagative materials.

Consequently, negligible changes in noxious weed populations are expected.

Monitoring

Monitoring of the effects of the Stone Shoup Commercial Thinning project will be done in accordance with provisions contained in the 1995 ROD/RMP, Appendix I (p. 84-86, 190-191, 193-199, and 201), focusing on the effects of thinning on: Riparian Reserves, Matrix, Air Quality, Water and Soils, Wildlife Habitat, Fish Habitat, Special Status Species Habitat, and Cultural Resources.

Protest Procedures

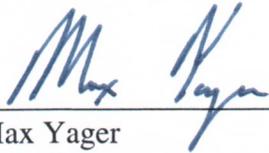
The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management Regulations at 43 CFR Subpart 5003 Administrative Remedies, protests of this decision may be filed with the authorized officer, Max Yager within 15 days of the publication of the notice of decision/timber sale advertisement on February 26, 2013, in *The News-Review*, Roseburg, Oregon.

43 CFR § 5003.3 subsection (b) states: “Protests shall be filed with the authorized officer and shall contain a written statement of reasons for protesting the decision.” This precludes the acceptance of electronic mail (email) or facsimile (fax) protests. Only written and signed hard copies of protests that are delivered to the Roseburg District Office will be accepted. The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error.

43 CFR § 5003.3 subsection (c) states: "Protests received more than 15 days after the publication of the notice of decision or the notice of sale are not timely filed and shall not be considered." Upon timely filing of a protest, the authorized officer shall reconsider the project decision to be implemented in light of the statement of reasons for the protest and other pertinent information available.

The authorized officer shall, at the conclusion of the review, serve the protest decision in writing to the party or parties. Upon denial of protest, the authorized officer may proceed with the implementation of the decision as permitted by regulations at 43 CFR § 5003.3 subsection (f).

If no protest is received by close of business (4:30 P.M., PST) within 15 days after publication of the decision notice, this decision will become final. If a timely protest is received, the project decision will be reconsidered in light of the statement of reasons for the protest and other pertinent information available, and the Swiftwater Field Office will issue a protest decision.



Max Yager
Field Manager
Swiftwater Field Office
(541) 440-4930

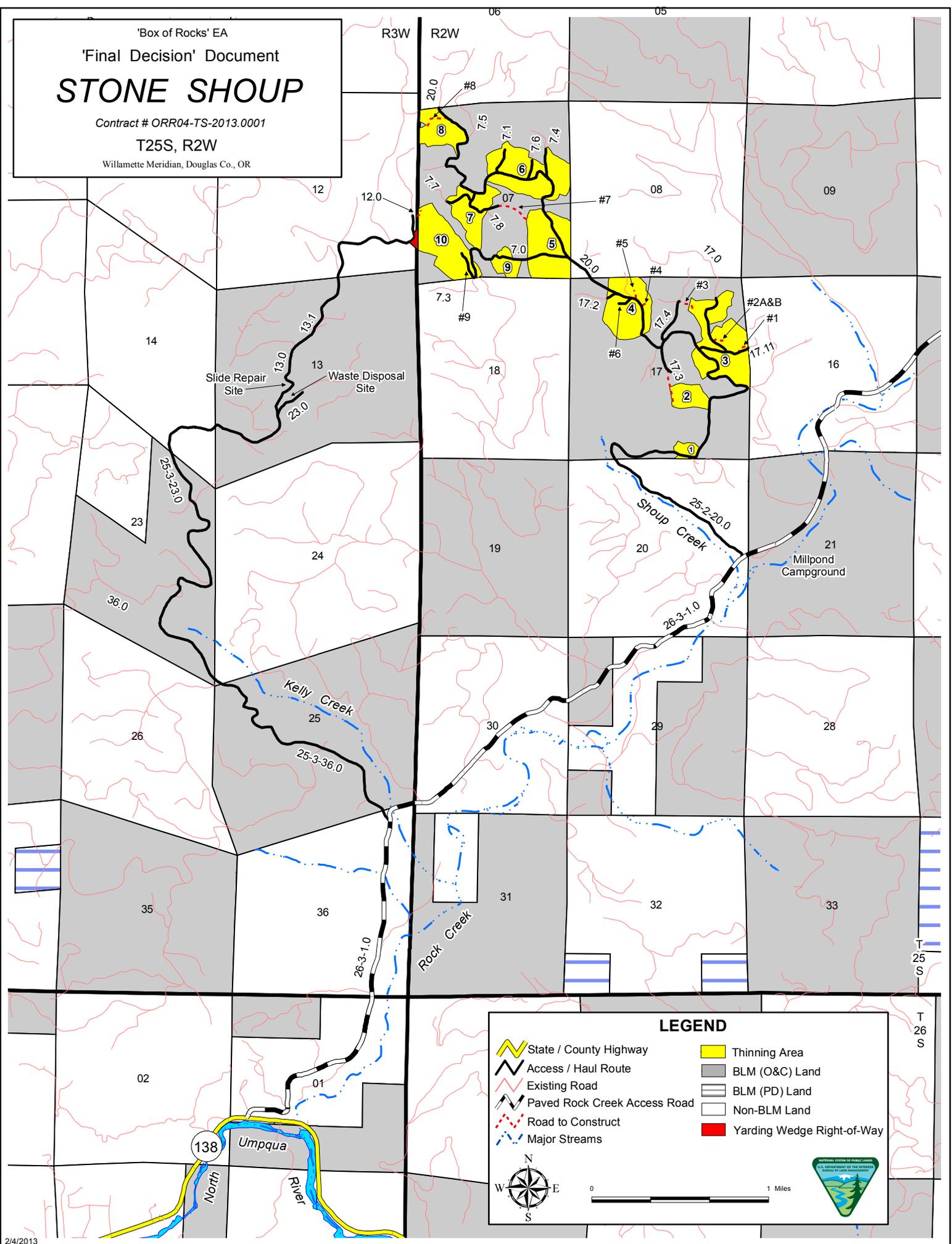
FEB. 13th, 2013
Date

'Box of Rocks' EA
 'Final Decision' Document
STONE SHOUP

Contract # ORR04-TS-2013.0001

T25S, R2W

Willamette Meridian, Douglas Co., OR

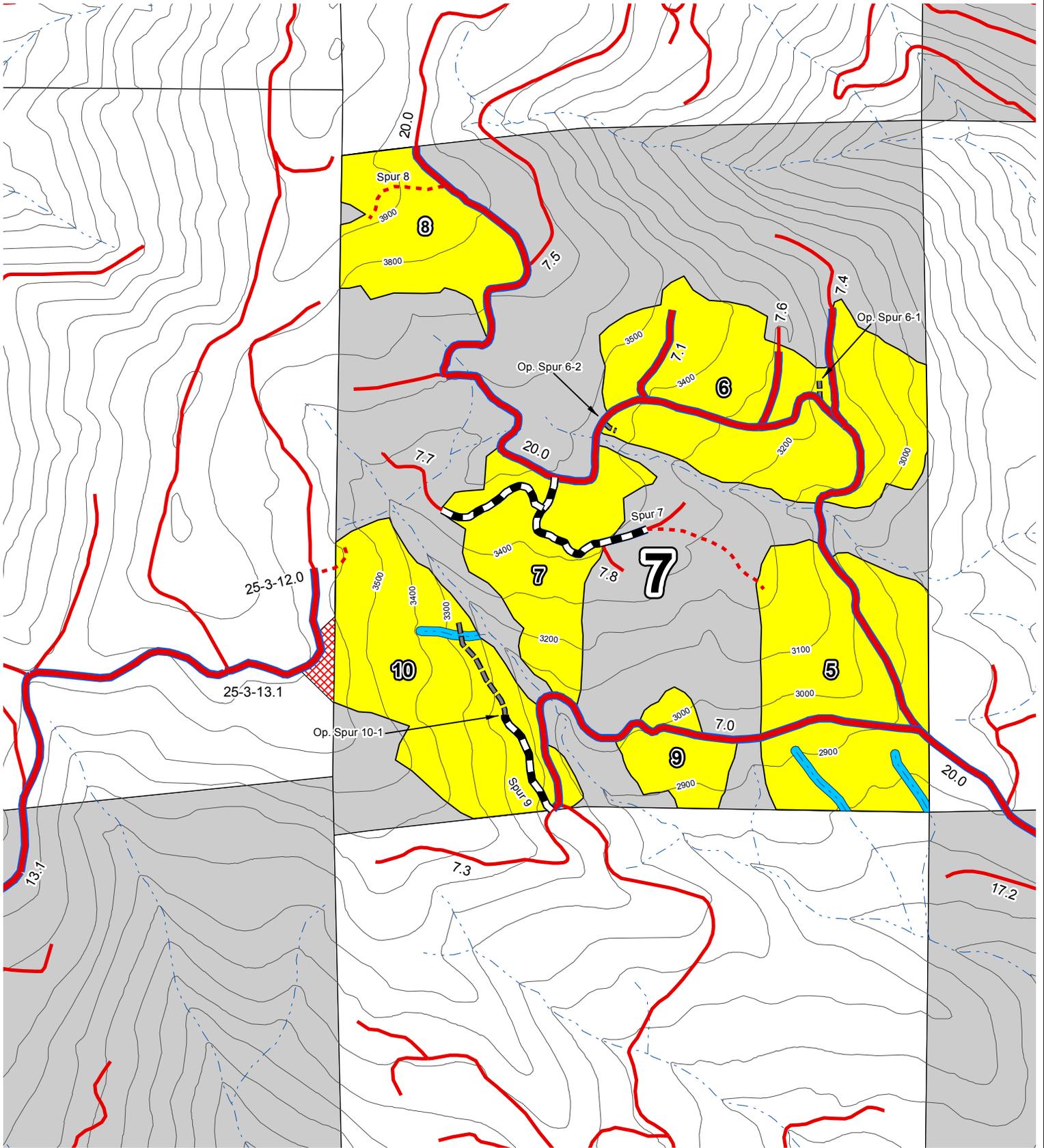


LEGEND

State / County Highway	Thinning Area
Access / Haul Route	BLM (O&C) Land
Existing Road	BLM (PD) Land
Paved Rock Creek Access Road	Non-BLM Land
Road to Construct	Yarding Wedge Right-of-Way
Major Streams	

0 1 Miles

STONE SHOUP



T25S, R2W

Willamette Meridian, Douglas Co., OR.

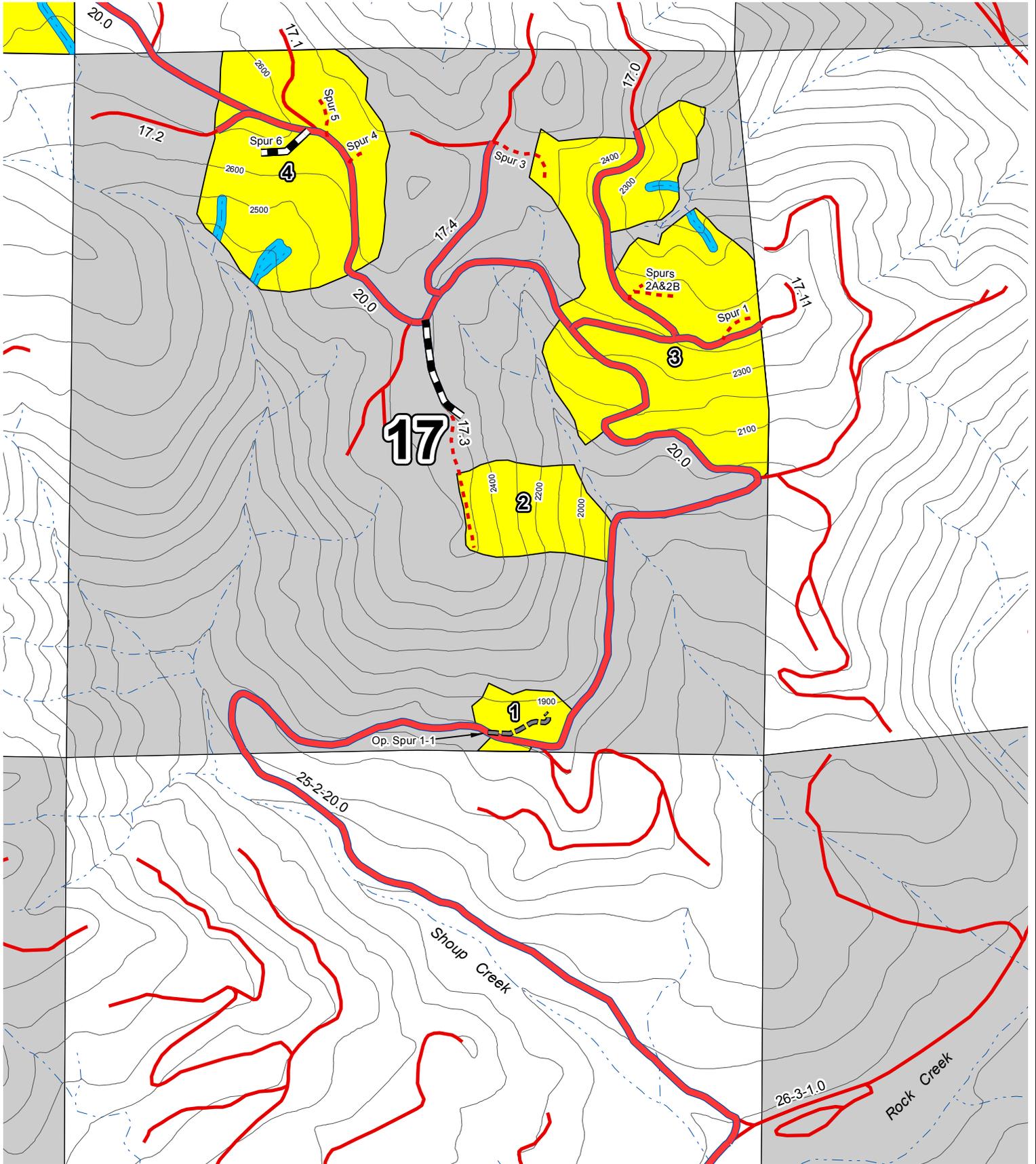


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.



- Existing Road
- Optional Operator Spur
- Road to be Constructed
- Road to be Renovated
- Access / Haul Route
- 100 Ft. Contour
- Stream
- Thinning Area
- 35' No Treatment Riparian Area
- Yarding Wedge
- BLM (O&C) Land
- Non-BLM Land

STONE SHOUP



T25S, R2W

Willamette Meridian, Douglas Co., OR.



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