STATE FOREST LAND
SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **MOONSTER** *Agreement #* **30-93329**

2. Name of applicant: **Washington Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Pacific Cascade Region
   PO Box 280
   Castle Rock, Washington 98611-0280
   Phone: (360) 577-2025

   Contact Person: Marcus Johns

4. Date checklist prepared: **10/12/2015**

5. Agency requesting checklist: **Washington Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **08/25/2016**
   b. *Planned contract end date (but may be extended):* **10/31/2019**
   c. *Phasing:* **None.**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes.

Timber Sale:

a. *Site preparation:*

Site preparation, including a chemical herbicide application, may be used to ensure that planting can be achieved at acceptable stocking levels to meet or exceed Forest Practice standards following harvest. Slash piles on landings may be burned during the fall before planting.

b. *Regeneration Method:*

The units will be hand planted with conifer species following harvest.

c. *Vegetation Management:*

Possible treatments, including a chemical herbicide application, could occur during stand establishment. Treatments will be based on vegetative competition, and will ensure a free-to-grow status that complies with Forest Practices standards.

d. *Thinning:*

Pre-commercial thinning needs will be assessed at approximately 7-10 years of age. Commercial thinning potential will be assessed at approximately 25 to 35 years of age. Thinning will be done as needed to meet desired density, stocking, species diversity, and growth.

Roads:

Road maintenance assessments will be conducted and will include periodic ditch and culvert cleanout, and grading as necessary. Construction, reconstruction, pre-haul maintenance and abandonment are associated with forest management activities.

Rock Pits and/or Sale:

The L-1211 A Rock Pit will be used as a rock source for future road and associated forest management activities.

Other:

Slash may be burned following harvest activities or sold as biomass. Firewood permits for the sale area may be issued to the public after timber harvest activities are completed.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒ *303 (d) – listed water body in WAU:* ☒ *temp* ☐ *sediment* ☐ *completed TMDL (total maximum daily load):*
Rock Creek WAU:
Rock Creek – Temperature
☐ *Landscape plan:*
☐ *Watershed analysis:*
☐ *Interdisciplinary team (ID Team) report:*
☒ *Road design plan:* **Available upon request at the Pacific Cascade Region Office**
☒ *Wildlife report:* **Available upon request at the Pacific Cascade Region Office**
☐ *Geotechnical report:*
☒ *Other specialist report(s):* **Available upon request at the Pacific Cascade Region Office**
☐ *Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒ *Rock pit plan:* **Available upon request at the Pacific Cascade Region Office**
☒ *Other:* **Forest Practices Board Manual; Forest Practices Activity Maps; Policy for Sustainable Forests (PSF 2006); State Soil Survey; Habitat Conservation Plan (HCP 1997);**

HCP Checklist; Riparian Forest Restoration Strategy (RFRS); State Lands Geologist Remote Review (SLGRR); Planning and Tracking Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): #2900971-2. The following information is provided by DNR's GIS database: Weighted Old Growth Habitat Index (WOGHI); WAU Rain-On-Snow Layer; Marbled Murrelet Habitat Layer; Spotted Owl Habitat Layer; and USGS and GLO maps.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

☒ *FP A #* 2932110 ☐ *FHPA* ☐ *Burning permit* ☐ *Shoreline permit* ☒ *Incidental take permit* **1168 & PRT 812521** ☐ *Existing HPA* ☐ *Other:*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

a. *Complete proposal description:*

Moonster is a nine unit sale in the Larch Block. Rock will be obtained from existing stockpiles off of the L-1211 A road and the L-1211 A Rock Pit. This proposal will use both ground-based and cable harvesting methods.

Unit	Proposal Acres	RMZ/WMZ Acres	Unstable Slope Acres	Existing Road Acres	Sale Acres	Leave Tree Clump Acres	Harvest Acres
	gross			*within unit*			*net*
1	13	0	0	0	13	1	12
2	38	0	0	2	36	2	34
3	92	12	0	4	76	8	68
4	154	57	0	0	97	11	86
5	20	9*	0	0	11	3*	8
6	29	12	0	0	17	2	15
7 (ROW)	<1	0	0	0	<1	0	<1
8 (ROW)	<1	0	0	0	<1	0	<1
9 (ROW)	2	0	0	0	2	0	2
Totals	349	90	0	6	253	27	226

***There are several small inner gorges totaling 0.3 acres that are located within the RMZ of Unit 4, all are encompassed within the Riparian Management Zone (RMZ) and do not**

extend into the harvest area. A small inner gorge feature exists in Unit 5, less than 0.4 acres in size, and is located within a Leave Tree Area.

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Unit	Age	Species Composition
1	72-years-old	**Overstory:** Douglas-fir, red alder. **Understory:** swordfern, salal, Oregon grape, vine maple, huckleberry, rose
2	72-years-old	**Overstory:** Douglas-fir, Pacific silver fir, western hemlock. **Understory:** salal, beargrass, Oregon grape, vine maple, bunchberry, rose.
3	51-65-years-old	**Overstory:** Douglas-fir, Pacific silver fir, red alder, western hemlock. **Understory:** salal, huckleberry, beargrass, Oregon grape, vine maple, willow, and rose.
4	58-67-years-old	**Overstory:** Douglas-fir, Pacific silver fir, red alder, western hemlock. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, bunchberry, and rose.
5	60-years-old	**Overstory:** Douglas-fir, Pacific silver fir, and red alder. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, vanilla leaf, and rose.
6	60-years-old	**Overstory:** Douglas-fir, Pacific silver fir, and red alder. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, vanilla leaf, and rose.
7 (ROW)	60-years-old	**Overstory:** Douglas-fir, Pacific silver fir. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, vanilla leaf, and rose.
8 (ROW)	60-years-old	**Overstory:** Douglas-fir, red alder. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, vanilla leaf, and rose.
9 (ROW)	58-67-years-old	**Overstory:** Douglas-fir, Pacific silver fir, noble fir. **Understory:** Salal, huckleberry, beargrass, Oregon grape, vine maple, bunchberry, and rose.

Type of Harvest: **This proposal is a variable retention harvest of 226 net acres.**

Overall Unit Objectives:

The objective of this proposal is:

1) **Produce revenue for the State Forest Transfer Trust (01) and Scientific School (10) through the production of saw logs, poles, and pulp material.**
2) **Provide for wildlife and riparian habitat by developing vertical stand structure and age class distribution in the future stand.**

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**7,902**	**2.5**	**0**
Reconstruction		**550**		**0**
Abandonment		**3878**	**1.2**	**0**
Bridge Install/Replace	**0**			**0**
Culvert Install/Replace (fish)	**0**			**0**
Culvert Install/Replace (no fish)	**3**			

There is 22,804 feet of pre-haul maintenance associated with this proposal.

A portion of a proposed road is being constructed on adjacent ownership (non-DNR State Lands property). An agreement was reached between the adjacent landowner and the DNR for the construction and use of the road in conjunction with this proposal. This roadwork has been evaluated as part of the entire proposal in this SEPA.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

a. Legal description: :

Unit 1 is located in Section 10 of Township 03 North, Range 04 East, W.M.

Units 2 and 7 are located in Section 14 of Township 03 North, Range 04 East, W.M.

Unit 3 is located in Sections 13 and 14 of Township 03 North, Range 04 East W.M.

Unit 4 is located in Sections 13, 23, and 24 of Township 03 North, Range 04 East W.M.

Units 5, 6, and 8 are located in Section 23 of Township 03 North, Range 04 East W.M.

Unit 9 is located in Section 13 of Township 03 North, Range 04 East W.M.

The L-1211 A Rock Pit is located in Section 14 of Township 03 North, Range 04 East W.M.

b. Distance and direction from nearest town (include road names):

The proposal is located approximately 25 miles by road northeast of Battle Ground, Washington. The route from Battle Ground is via SR 503 to the north, to Rock Creek Rd., to NE 152nd Ave., to NE Lucia Falls Rd., to NE Sunset Falls Rd., to Dole Valley Rd., to the L-1000, to the L-1200, to the L-1210, to the L-1211 Rd.

c. Identify the names of all watershed administrative units (WAU). See also landscape/WAU map on DNR website: http://www.dnr.wa.gov/ResearchScience/sepa/Pages/Home.aspx under the topic "Current SEPA Project Actions – Timber Sales" for a broader landscape perspective.

WAU Name	WAU / Sub-basin Acres	Proposal Acres
Rock Creek	**21377**	
Sub-basin #8	**1996**	**338**
Sub-basin #9	**1361**	**11**

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center for a broader landscape perspective.)

This proposal is located within the Rock Creek Watershed Administrative Unit (WAU). Agriculture and home sites are located in the valleys near the major streams. There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevation ranges. The uplands are mainly managed for timber production. Ownership includes large industrial forests, small private forests, federal forests, and Department of Natural Resources managed forests. Forested stands within the WAU appear to be primarily second and third growth stands. The numbers of forest practice activities shown on the WAU maps (referenced above on the Department's website) along with observations within the WAU indicates that the WAU is intensively managed for timber production, including variable retention harvest, thinning, and partial cuts.

The following tables are an estimated summary of past and future activities on Department of Natural Resources managed land and privately managed land in the Rock Creek WAU (information is based on Forest Practices applications that have been approved in the last seven years as of October 12, 2015 compiled by the DNR's GIS database). No attempt was made to predict future timber harvest on private ownerships within the WAU. The source of this information only provided the acreage on the WAU level. Approximately 33% of the land managed by the Department in the WAU is covered with vegetation greater than 25 years old.

Rock Creek WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE*	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE*
DNR MANAGED LAND	16,237	1,651	367	1,253 (estimated)	226 (estimated)
PRIVATE OWNERSHIP	3,979	556 (estimated)	50 (estimated)	Unknown	Unknown
OTHER OWNERSHIP	1,161	Unknown	Unknown	Unknown	Unknown
TOTAL	21,377	2,207	417	1,253	226

***Future is defined as occurring within the next 5-7 years (approximately).**

The Department of Natural Resources has a multi-species Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service concerning threatened and endangered species and their habitats, which requires the Department to manage landscapes to provide and sustain long-term habitat in exchange for an Incidental Take Permit. This agreement substantially helps the Department to mitigate for cumulative effects related to management activities. The applicable strategies incorporated into this proposal are as follows:

- **Retaining Riparian Management Zones (RMZ) averaging 153 feet wide adjacent to harvest areas along one Type 3 stream, and a minimum 100 feet wide adjacent to harvest areas along Type 4 streams, measured from the outer edge of 100 year floodplain. These measures are intended to protect water quality, stream bank integrity, stream temperatures, and provide down woody debris. RMZs will develop older riparian forest characteristics that, in combination with other strategies, will help support older riparian forest dependent wildlife and aquatic species.**
- **Wetland Management Zones (WMZ) averaging 145 feet wide adjacent to harvest areas around one forested wetland greater than one acre in size, and a minimum 100 feet wide adjacent to two forested wetlands less than an acre in size, measured from the edge of the delineated forested wetlands. These measures are intended to protect water quality, sensitive wetland soils, and to maintain hydrologic function and natural water flow. WMZs will help develop and protect the delineated wetland in developing older, wetland forest characteristics.**
- **A 100 foot buffer was provided to protect a talus field greater than 1 acre in size adjacent to Unit 4.**
- **Evaluate the proposal for potential slope instability, and excluding harvest activities from approximately 0.7 acres that exhibited indicators of potentially unstable slopes.**
- **Retain a minimum of 8 trees per acre (greater than 10 inches Diameter at Breast Height) clumped and scattered throughout the units. This strategy will provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination, these features will provide elements of older forest habitat characteristics within the new plantation.**
- **Analyze, design, and construct roads to minimize effects on the environment.**

Road cut banks will be re-vegetated with native grass seed to reduce the risk of potential erosion, sediment delivery and soil instability.

After harvest, tree seedlings will be planted to reforest the site and may be complemented by the natural regeneration that is expected to occur. Understory vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, yarding and site preparation activities. Color and quantity of native vegetation will be temporarily affected by site preparation activities. Most of the vegetation will robustly re-establish within 2 to 3 years.

A regular maintenance schedule will be followed to allow for proper road surface run-off and drainage. Haul routes for this proposal have been evaluated for potential environmental impacts. To ensure sediment is minimized during hauling, cross-drains, sediment ponds, and other structures will be used to disconnect ditch water from flowing streams. Road ditch water will be routed to the forest floor for filtering to prevent it from entering live streams. New road construction was located on stable ridge-top locations, where possible. Road system analysis and design required under the HCP and analysis required under the Forest Practices RMAP process in the Larch Block was completed and approved. Road improvement projects identified in the RMAP began in 2003.

The 303 (d) stream in the Rock Creek WAU is listed as a Temperature impaired; however, due to the distance from the proposal area (approximately 3.5 miles downstream) and mitigation measures in this proposal, there should be no impact to listed water, Rock Creek.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):
☐Flat, ☐Rolling, ☐Hilly, ☐Steep Slopes, ☒Mountainous, ☐Other:

All units are mountainous.

1) *General description of the WAU or sub-basin(s)(landforms, climate, elevations, and forest vegetation zone).*

The Rock Creek WAU is situated in the western foothills of the Cascade mountain range and drains into the E. Fork Lewis River. The WAU can be categorized as both mountainous and hilly, with steep slopes rising out of the valley bottoms and prominent peaks in its upper reaches to low gradient hills and rounded ridges in its lower extent. The WAU averages 77 inches of precipitation per year. Minimum elevation is 611 feet rising to 4,355 feet. Rain-on-snow zones are as follows: "Rain Dominated Zone" 13,336 acres (62.4%); "Peak Rain-On-Snow Zone" 6,994 acres (32.7%); "Snow Dominated Zone" 1,048 acres (4.9%). The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with Pacific silver fir and western hemlock in the upland soils and red alder and bigleaf maple in the draws.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal lies primarily within the Rain on Snow zone and the upper elevations of the Rain Dominated Zone. The proposal is very similar to the above description except there is very little western hemlock in the proposal units and Pacific silver fir comprises half of the timber in Units 3 and 4.

b. What is the steepest slope on the site (approximate percent slope)?

90%

Occurs in small areas within the harvest unit and within inner gorges protected by no-cut RMZ's and leave tree areas.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

State Soil Survey #	Soil Texture
4222	**V.COBBLY SILT LOAM**
4220	**LARCHMOUNT-ROCK OUTCROP-COMPLEX**
4221	**V.COBBLY SILT LOAM**
7403	**COBBLY LOAM**
3918	**KINNEY-SKOLY-COMPLEX**
7519	**STAHL-ROCK OUTCROP-COMPLEX**
3908	**COBBLY SILT LOAM**
7528	**STAHL-REICHEL-COMPLEX**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Yes.

1) Surface indications:

A DNR State Lands geologist remotely reviewed all units of the sale utilizing historic aerial photographs and Landslide Remote Identification Model (LRIM) tool. LRIM is a screening tool which identifies areas of potentially unstable landforms using remote sensing data from Light Detection and Ranging (LIDAR) and slope. The

results of the geologist's review, available in SLGRR (State Lands Geologist Remote Review), indicated the proposal area had potential for areas of slope instability. The geologist did a field visit to units 3, 4, 5, and 6. Potentially unstable slopes were identified and excluded from the harvest area as part of a leave tree clump using "Timber Sale Boundary" tags. The excluded area totaled approximately 0.4 acres. There were potentially unstable slopes totaling approximately 0.3 acres that were identified and excluded from the harvest area within the RMZ.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*

☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of small, shallow slope failures within the sub-basins. These are generally associated with slopes greater than 70% within convergent landforms such as bedrock hollows and inner gorges. These landforms, per local knowledge, typically occur within the RMZs, lower slopes of the main draws, and on headwalls at the top of steep draws.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*

☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

Associated management activity:

Indicators of small shallow slope failures are evident in harvested areas within the sub-basins, and failures of sidecast material along inactive grades built prior to the Forest Practices rules (1974).

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*

☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

The proposal contains Forest Practices rule identified unstable landforms.

Past harvest activities (pre Forest Practices Rules) operated on areas now recognized as potentially unstable. This proposal avoids all Forest Practices rule identified landforms by removing all potentially unstable landforms from harvest operations.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

- **The roads were designed and located to minimize or eliminate the amount of full bench construction required to reach all units.**

- **Construction on side slopes over 45% will require full bench excavation with end haul.**
- **Cross-drains and ditchouts will be utilized to minimize the potential for mass wasting and slope failures associated with poor drainage.**
- **Some steeper Type 5 headwalls have leave tree clumps protecting them.**
- **Skid roads will be water barred as necessary to prevent surface runoff.**
- **Lead end suspension will be required on all cable settings.**
- **Full suspension will be required when yarding over Type 4 streams.**

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Approx. acreage new roads: **2.3** *Approx. acreage new landings:* **1**

Fill Source: **Native Material** *Approx. cubic yards of fill:* **42,000**

Purpose: **One Type 4 and two Type 5 culvert installations and road construction.**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes. Some erosion could occur as a result of building new roads, installing culverts, and hauling timber.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

3% (This includes running surface of roads as well as proposed landings).

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)*

Erosion control and reduction measures are addressed in the sale layout and harvest system design.

- **The no-harvest RMZs and WMZs will function to protect streams and wetlands from sediment delivery.**
- **Leave tree clumps were left around the headwalls of some Type 5 streams.**
- **Harvested areas will be replanted with coniferous tree species to reestablish root bound soils.**
- **Road construction, reconstruction, pre-haul maintenance, rock pit development, and abandonment shall be conducted during dry weather conditions.**
- **Areas of soil exposed through road construction will be grass seeded.**
- **Skid trails may be water barred post-harvest, if necessary.**

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging and road construction equipment and dust from vehicle traffic on roads will be emitted. If landing debris burning after harvest is completed, smoke will be generated. There will be no emissions once the proposal is complete.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If landing debris is burned, it will be in accordance with Washington State's Smoke Management Plan. A burn permit will be obtained before burning occurs.

3. Water

- Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(see timber sale map available at DNR region office, or forest practice application base maps.)*

Yes.

a. *Downstream water bodies:*

Rock Creek and E. Fork Lewis River.

b. *Complete the following riparian & wetland management zone table:*

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in feet (per side for streams)
Forested Wetland	**>1 acre**	**1**	**145**
Forested Wetland	**<1 acre**	**2**	**100**
Rock Creek	**3**	**1**	**153**

Rock Creek	4	1	100
Unnamed Stream	4	13	100
Unnamed Stream	5	13	None

c. *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*

- **Leave trees were placed along most Type 5 streams.**
- **Wind buffers were not deemed necessary for streams greater than 5 feet wide due to the low potential for wind throw based on topography, position relative to prevailing winds and observing RMZs from previous timber sales in the vicinity.**

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*

Description (include culverts):

Trees will be felled away from all streams. Trees may be cut in the RMZs for safety or operational needs, but will be left in place to provide large woody debris functions in the riparian area.

Tailhold cables may be strung through the Type 3 RMZ, however, no timber will be yarded through it. Harvester will be given the option to yard timber through a Type 4 RMZ in Unit 4. Full suspension shall be required in the inner zone of the RMZ. Yarding corridors should be located in natural voids, where possible, while avoiding inner gorges and concentrations of snags. Trees damaged during operations in outer zone of RMZ will be allowed to remain on site as live trees, snags, or down woody debris. Tress cut or damaged in the inner zone shall remain on site. Any debris that could block or divert a portion of the stream shall be removed.

Type 5 streams may have tailhold cable strung over them.

Timber harvest may occur within approximately 153 feet (required average RMZ width) of the Type 3 stream adjacent to Units 5 and 6. Timber harvest may occur as close as 100 feet (required minimum RMZ width) to all Type 4 streams in the proposal area. Timber harvest may occur within approximately 145 feet (required average WMZ width) of the wetland >1 acre in Unit 4. Timber harvest may occur as close as 100 feet to all wetlands ranging in size from 0.25 acres to <1 acre in size.

A culvert installation on a Type 4 stream on the 1745 Rd. at station 49+97 is proposed. Two culvert installations on the L-1211 K Rd. at stations 17+33 and 18+15 are proposed.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Approximately 400 cubic yards of fill will be placed over two Type 5 stream crossings at stations 17+33 and 18+15 of the L-1211 K road. Approximately 200 cubic yards of fill will be placed over a Type 4 stream crossing at station 49+31 of the 1745 road.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation).*

☐ *No* ☒ *Yes, description:*

Temporary diversions, may be necessary for a culvert installation on a Type 4 stream at station 49+97 of the 1745 road and the culvert installations on two Type 5 streams on the L-1211 K road at stations 17+33 and 18+15. This activity will include creating a check dam and diverting the water around the work area to prevent sediment delivery to typed water. Water will be returned to the original stream channel at the best possible location

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

☐ *No* ☒ *Yes, describe location:*

The Type 4 and 5 culvert installations are located within the 100-year floodplain.

A portion of the yarding corridor through a Type 4 RMZ in Unit 4 is located within the 100 year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

☒ *No* ☐ *Yes, type and volume:*

7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*

Yes. Within the sub-basin, soils and terrain susceptible to surface erosion and/or mass wasting are generally located on slopes steeper than 70%. The potential for eroded material to enter surface water is minimized due to the erosion control measures and operational procedures outlined in B.1.d.5 and B.1.h.

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*

☐ *No* ☒ *Yes, describe changes and possible causes:*

During the winters of 1996, 2007, and 2009, (suspected) 100-year return interval precipitation events occurred. The storms set rainfall and flood level records in Southwest Washington and Northwest Oregon. The events caused many shallow mass-wasting events, which caused stream channels to change location and/ or dimension. The full extent and long-term impacts across the WAU from these storms is not known due to varying ownerships.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*

☐ *No* ☒ *Yes, explain:*

This proposal includes both the harvest of timber and road work. The removal of overstory vegetation will temporarily reduce interception of water and increase infiltration and saturation of water into the forest floor which could temporarily increase overland flow.

RMZ/WMZ buffers (see B.3.a.1.b) and other operation control measures (see B.1.h) ensure that any overland flow from disturbed soil areas will filter through substantial amounts of forest-floor vegetation before entering any perennial stream channels.

Road work disturbs surface soils where some temporary surface erosion is likely to occur, especially with the first winter rains following road work at culvert installation locations and road abandonment related culvert removal locations. These installations and removals will follow Forest Practices Rules and RMAP requirements to minimize any erosion-related water quality impacts. See question B.1.h, B.3.a.1.c, and B.3.d. for a partial listing of some of the specific erosion protection measures.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)? Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*

☒ *No* ☐ *Yes, describe:*

The Rock Creek WAU averages 5.2 miles. Road mileages for the sub-basins are similar to the WAU mileages. The high number of miles per square mile may be due to the majority of the WAUs and sub-basins being in an urbanized environment.

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*

☐ *No* ☒ *Yes, approximate percent of sub-basin(s) in significant ROS zone:*

Or*, approximate percent of WAU:*

Rock Creek WAU: 32.7% Peak Rain-On-Snow Zone

Sub-basin #8: 78.42% ROS/SD Zone

Sub-basin #9: 81.12% ROS/SD Zone

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

Within the Rock Creek WAU – Sub-basin #8 ROS/ SD zone, 86.50% is rated as hydrologically mature and Sub-basin #9 ROS/ SD zone, 77.13% is rated as hydrologically mature.

13) Is there evidence of changes to channels associated with peak flows in the WAU and sub-basin(s)?

☐ *No* ☒ *Yes, describe observations in the WAU and in the sub-basin(s):*

Normally, there are few significant changes associated with peak flows in the WAUs and sub-basins. During the winters of 1996, 2007, and 2009, (suspected) 100-year return interval precipitation events occurred. Many channels in the WAUs were altered during these events due to high stream flows. In some cases the channels have been scoured down to bedrock, in others the increase in sediment loads and large woody debris delivery has changed channel locations and increased pool/ riffle ratios.

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.

The current proposal may slightly change the timing, duration, and/or magnitude of peak flows due to decreased evapotranspiration but measurable impacts are not anticipated.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*

☒ *No* ☐ *Yes, possible impacts:*

There are a few water intakes downstream (approximately 1.8 miles) from the proposal. One area of slope instability lies adjacent to a Type 5 stream on this proposal. Based on the protection measures outlines in B.1.d.5, B.1.h, and B.3.a.16., no measurable impacts are anticipated.

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

- **Type 3 and 4 no harvest RMZs to protect stream banks from erosion.**
- **No harvest WMZs.**
- **The proposal's harvest units are each less than 100 acres to minimize impacts to watershed hydrology. (Unit 1= 13 acres; Unit 2= 36 acres, Unit 3= 76 acres; Unit 4= 97 acres; Unit 5= 11 acres; Unit 6= 17 acres; Unit 7=< 1 acre; Unit 8=< 1 acre, Unit 9= 2 acres).**
- **Allowing green-up (regenerated stands that are either 4 ½ feet tall or 5 years of age) of adjacent stands to minimize impacts to watershed hydrology.**
- **Areas of soil exposed through road construction will be grass seeded.**
- **See B.1.d.5. and B.1.h. for further protection measures**

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other

sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site. All spills are required to be contained and cleaned-up. This proposal is expected to have no impact on ground water.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*

☒ *No* ☐ *Yes, describe:*

There are a few public and private wells downstream (approximately 1.8 miles) from the proposal. Due to the distance from the proposal area, ground water amounts, timing, and movements are not expected to be changed by this proposal. Based on the protection measures outlined in B.1.d.5, and B.1.h, impacts to this area are not anticipated.

i. *Note protection measures, if any.*

No additional protection measures were identified as necessary to protect these resources beyond those described in B.1.d.5 and B.1.h.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff from road surfaces and intercepted subsurface flow will be collected by roadside ditches and diverted onto the forest floor via ditch-outs and cross drain culverts.

2) Could waste materials enter ground or surface waters? If so, generally describe.

☐ *No* ☒ *Yes, describe:*

Waste materials, such as sediment or slash, may enter surface water.

i. Note protection measures, if any.

Logging slash which enters any typed stream and is identified by the Contract Administrator will be removed post harvest. No additional protection measures will be necessary to protect these resources beyond those described in B.1.d.5., B.1.h., B.3.a.16.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Yes.

Impact to drainage patterns near the site will be minimized. Roads were designed to maintain drainage patterns in the area by locating them on ridge tops where possible and placing culverts, cross drains, and ditch outs wherever necessary to maintain drainage.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.

4. Plants

a. Check the types of vegetation found on the site:

☒deciduous tree:
☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☒other: **Willow and bitter cherry**

☒evergreen tree:
☒*Douglas fir,* ☐*grand fir,* ☒*Pacific silver fir,* ☐*ponderosa pine,* ☐ *lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☐*red cedar,* ☐*yellow cedar,* ☒other: **noble fir**

☒shrubs:
☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **Oregon grape, vine maple, thimbleberry, wild rose, trailing blackberry**

☐grass
☐pasture
☐crop or grain
☒wet soil plants:
☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☒other: **Deer fern, small fruited bulrush**

☐water plants:

☐ water lily, ☐ eelgrass, ☐ milfoil, ☐ other:
☒ other types of vegetation: **Sword fern, bunchberry, vanilla leaf , bear grass**
☐ *plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See color landscape/WAU and adjacency maps on the DNR website:*
http://www.dnr.wa.gov/ResearchScience/sepa/Pages/Home.aspx
(Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales.")

Unit 1: To the north is a 27 year old stand of Douglas-fir. To the east is a 49 year old stand of Douglas-fir. To the southeast is a 71 year old stand of Douglas-fir. To the south is a 17 year old stand of Douglas-fir. To the west is a 10 year old stand of Douglas-fir.

Unit 2: To the north is an 80 year old stand of mixed conifer and 7 year old stand of mixed conifer. To the east is a 66 year old mixed conifer stand. To the south is an approximately 8 year old private Douglas-fir plantation. To the west is an approximately 25 year old private Douglas-fir plantation.

Unit 3: To the north is an approximately 8 year old private plantation of Douglas-fir and a 67 year old mixed conifer stand. To the east is a 145 year old Douglas-fir stand and a 67 year old stand of mixed conifer. To the south is an approximately 67 year old private plantation of Douglas-fir and an approximately 2 year old plantation of Douglas-fir. To the west is an approximately 15 year old private plantation of Douglas-fir.

Unit 4: To the north is a 145 year old Douglas-fir stand and a 58 year old stand of mixed conifer. To the east is a 58 year old mixed conifer stand and a 67 year old Douglas-fir RMZ/WMZ. To the south is a 67 year old Douglas-fir RMZ. To the west is a 67 year old RMZ of Douglas-fir and a 145 year old stand of Douglas-fir.

Unit 5: To the north is an approximately 2 year old private plantation of Douglas-fir. To the east is a 60 year old RMZ of Douglas-fir. To the south is a 60 year old RMZ of Douglas-fir. To the west is an approximately 2 year old private plantation of Douglas-fir.

Unit 6: To the north is a private stand of approximately 67 year old Douglas-fir. To the east is a 67 year old RMZ of Douglas-fir. To the south are 60 and 67 year old RMZs of Douglas-fir. To the west is a 67 year old Douglas-fir RMZ.

Unit 7 (ROW): Through an approximately 67 year old private stand of Douglas-fir.

Unit 8 (ROW): Through a 68 year old Douglas-fir RMZ.

Unit 9 (ROW): Through 64 and 58 year old stands of mixed conifer.

The older stands (58-145 years old) and the mature RMZ and WMZ stands adjacent to the units have multi-layered canopies with scattered small to large snags and a moderate component of large down woody debris. The adjacent plantations (2-27 years old) have few snags and most of the down woody debris is scattered logs and slash from the previous harvest. Within the larger leave tree clumps, there are some components of older large down woody debris within the undisturbed vegetation.

2) *Retention tree plan:*

A combination of Douglas-fir, Pacific silver fir, noble fir, western hemlock, and red alder were left for green tree retention and snag recruitment. Reserve tree numbers were based on leaving eight trees per acre. Trees were left individually and in clumps. This type of leave tree pattern is conducive to a safe harvest operation and allows the distribution of wildlife trees throughout the proposal. When selecting wildlife trees, the highest preference was given to trees having form defects that may be desirable for birds, the largest trees, and the most windfirm species.

c. List threatened and endangered *plant* species known to be on or near the site.

None found in database search or observed on site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Retention tree clumps are identified across the harvest area. Some clumps were selected for their species diversity of native flora. These clumps will provide a local seed source for native overstory and understory species. Wildlife trees were left in areas to protect snags, large down logs, advanced regeneration, Type 5 streams, and potentially unstable slopes. Trees with defects such as split or broken tops, dominant crowns, large diameters and large limbs were favored as leave trees to enhance wildlife potential. Older legacy trees were identified and retained individually and in leave tree clumps. In addition, one large leave tree clump was created in Unit 4 to provide additional riparian protection that avoided road building and a Type 4 stream crossing and retain large snags that would have otherwise been fallen for safety reasons.

e. List all noxious weeds and invasive species known to be on or near the site.

Himalayan blackberry and Scotch broom have been observed on or near the site.

5. **Animals**

a. List any birds and other animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: ☒hawk, ☐heron, ☒eagle, ☒songbirds, ☐*pigeon*, ☒other: ***Strix spp.***

mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☒other: **mountain beaver**

fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:

unique habitats: ☒*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened and endangered species known to be on or near the site *include federal- and state-listed species).*

Lower Columbia River salmonid species (coho and steelhead) are located at least 1,200' downstream within Coyote Creek, Rock Creek, and the East Fork Lewis River and are federally threatened. A status 3 Northern Spotted Owl (NSO) site center (Cold Creek- Lewis R) is located to the southwest of the proposal on State land.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River Flyway, which is part of the Pacific Flyway. Migratory waterfowl use the Columbia River Flyway; however, the area in which this proposal is contained is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many Neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of the Department's Habitat Conservation Plan

d. Proposed measures to preserve or enhance wildlife, if any:

This sale has been designed to comply with the DNRs' HCP and provides for the protection of wildlife and associated habitat. Scattered and clumped leave trees provide nesting, roosting and foraging areas for avian species. Well engineered and constructed roads reduce potential water quality impacts for down-stream fish populations. Grass seeding exposed soil aids water quality and provides forage for ungulates. Large-diameter leave trees and leave trees with unique structure will remain post-harvest to enhance the wildlife habitat value of the future stand. The regenerated stand will be composed of mixed conifer species complemented with hardwood natural regeneration.

The Status 3 NSO center is located approximately 1 mile southwest of this proposal on State land. This recorded occurrence is located outside of the WADNR's Nesting, Roosting, and Foraging and Dispersal Management Areas for the northern spotted owl. Thus, the Agency's HCP does not mandate for the management of this spotted owl site center as outlined with this proposal.

Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Riparian Habitat

- **No harvest RMZs on Type 3 and 4 streams, except at road crossings.**
- **No harvest WMZ on forested wetlands.**

Upland Habitat

- **A minimum of 8 leave trees per acre were left clumped and scattered.**
- **100 foot no harvest buffer on 1 acre of talus slope.**
- **Older large down woody debris will be left onsite.**
- **Snags will be left where operationally feasible.**

e. List any invasive animal species known to be on or near the site.

Invasive species have not been observed on or near the site.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Petroleum fuel (diesel or gasoline) will be used for heavy equipment during active road building and timber harvest operations.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal hazards incidental to operation of heavy machinery such as the risk of fire or small amounts of oil and other lubricants may be accidentally discharge as a result of heavy equipment use.

1) Describe any known or possible contamination at the site from present or past uses.

None known.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Petroleum fuel and oil will be used during active road building and timber harvesting. Typically these substances are stored in small transfer tanks located in passenger vehicles. No toxic or hazardous chemicals will be stored on site following active operations.

4) Describe special emergency services that might be required.

There are no special emergency services required at this time. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology.

5) Proposed measures to reduce or control environmental health hazards, if any:

The cessation of operations may occur during periods of time when the risk of fire is increased. Fire tools and equipment, including pump trucks and/or pump trailers, will be required on site during fire season. Quick response spill kits are required to be on site in case of smaller spills, as are larger spill kits if hazardous materials are going to be stored on site during operations. No oil or lubricants will be allowed to be disposed of on site.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Log trucks will use forest roads, county roads, and State Routes 503 and 502. This is normal activity for this area and is consistent with existing traffic. Noise will be increased during daylight hours from the operation of machinery and power tools.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. *(Site includes the complete proposal, e.g. rock pits and access roads.)*

The State land surrounding the units is managed for timber production by the DNR. Private property adjoining Units 2, 3, 5, and 6 appear to be managed for timber production. Federal land to the west of Unit 4 appears to be managed for recreation and wildlife habitat.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

The proposal site consists of working forest lands which will not be converted to other uses as a result of the proposal.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

This proposal is consistent with current and standard forestland harvest activities; there will be no effect on this or adjacent lands that would affect normal forest land business operations. Equipment access, applications of pesticide and timber harvesting are normal activities that would be expected on forest lands.

c. Describe any structures on the site.

There are no structures associated with this proposal.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

FR-80 (Forest Resource)

f. What is the current comprehensive plan designation of the site?

The comprehensive plan designation is resource lands, forest of long term significance.

g. If applicable, what is the current shoreline master program designation of the site?

There are no shorelines associated with this proposal.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

No.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is consistent with the Department's Habitat Conservation Plan and Policy for Sustainable Forests, as well as the county's comprehensive plan designation and zoning classification.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

This proposal is consistent with the Department's Habitat Conservation Plan and Washington State Forest Practice Rules.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

There are no structures associated with this proposal.

b. What views in the immediate vicinity would be altered or obstructed?

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*

☐*No* ☒*Yes, viewing location:*

The proposal is visible from the Tarbell Trail, Silver Star Mountain, and Pyramid Rock.

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*

☒*No* ☐*Yes, scenic corridor name:*

3) *How will this proposal affect any views described in 1) or 2) above?*

This proposal will resemble previous timber harvests in the area and views will change from a stand of mature timber to a view of a recent harvest with mature trees remaining surrounding Type 3 and 4 streams, wetlands, and talus slope. There will also be clumps and individual trees scattered throughout. This view will change to one of a young plantation after seedlings are planted and the new trees continue to grow.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Tarbell trail system is located within the immediate vicinity of this proposed activity. This trail system is mainly used by hikers, bikers, and horseback riders. The trails system runs through Unit 4 of the proposal area. Several other informal recreation activities take place in the area such as hunting, horseback riding, hiking, mountain biking, and berry and mushroom picking.

b. Would the proposed project displace any existing recreational uses? If so, describe.

There will be times during operations where sections of trail use will be temporarily interrupted.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The effected portions of the trail will be posted with signs to inform trail users of the activity. Portions of the trail, that will be affected, will be maintained while logging and road building activities take place. The Region Recreation Forester was notified of the future activity and will be kept informed on start dates for this proposal when in proximity to the Tarbell Trail.

<u>Special Conditions Applying to the Tarbell Trail:</u>

- **The Purchaser shall post the trail closed with warning signs, and provide a watch person when harvest operations occur within 200 feet of the trail.**
- **Tarbell Trail closures will be posted by the Purchaser prior to operations at each end of the harvest unit and at the nearest junction with another trail or road. Posting will include the date posted, closure periods, and anticipated reopening. Closure signs will be maintained by the Purchaser during the sale and will be removed after approval of the final trail cleaning following harvest.**
- **The Tarbell Trail shall remain in a usable condition for weekend and holiday use when cable yarding operations are not active.**
- **The trail, any trail structures and drainage will be repaired to pre-harvest conditions within 15 days of the completion of harvest activities.**
- **No slash piles shall be left within 25 feet of either side of the trail.**
- **Cable yarding corridors that cross the Tarbell Trail are subject to approval by the Contract Administrator.**

13. **Historic and cultural preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers

located on or near the site? If so, specifically describe.

No.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The site was remotely assessed by a DNR Cultural Resource Technician, reviewing GLO and Historic maps, and existing recorded historical sites that have been recorded by DAHP.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

In the event that archeological resources are encountered, ground disturbing activities would be halted and a Department of Natural Resources Archaeologist will be contacted to survey the site and update the Site Protection Plan. The Department's Inadvertent Discovery Plan is available at the Region office.

14. **Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

SR 503 to NE Rock Creek Rd., to NE 152nd Ave., to NE Lucia Falls Rd., to NE Sunset Falls Rd., to Dole Valley Rd. which provides access to the forest roads that provide access to the harvest units.

1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*

No.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is in Battle Ground, WA which is approximately 25 miles southwest from this proposal.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

None.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

Yes, see A.11.c above.

1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*

This proposal expands the network of Department of Natural Resources' forest roads in the area.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

5-20 trips per day during harvesting activities with periodic trips post-harvest to conduct monitoring and timber stand improvements. Vehicle trips were estimated based on the proposed volume removal and amount of road construction. Vehicles are primarily dump trucks and logging trucks.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

h. Proposed measures to reduce or control transportation impacts, if any:

None.

15. **Public services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. **Utilities**

a. Check utilities currently available at the site:
☐electricity ☐natural gas ☐water ☐ refuse service ☐telephone ☐sanitary sewer
☐septic system ☐other:

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Doug Sirrine

Name of signee Doug Sirrine

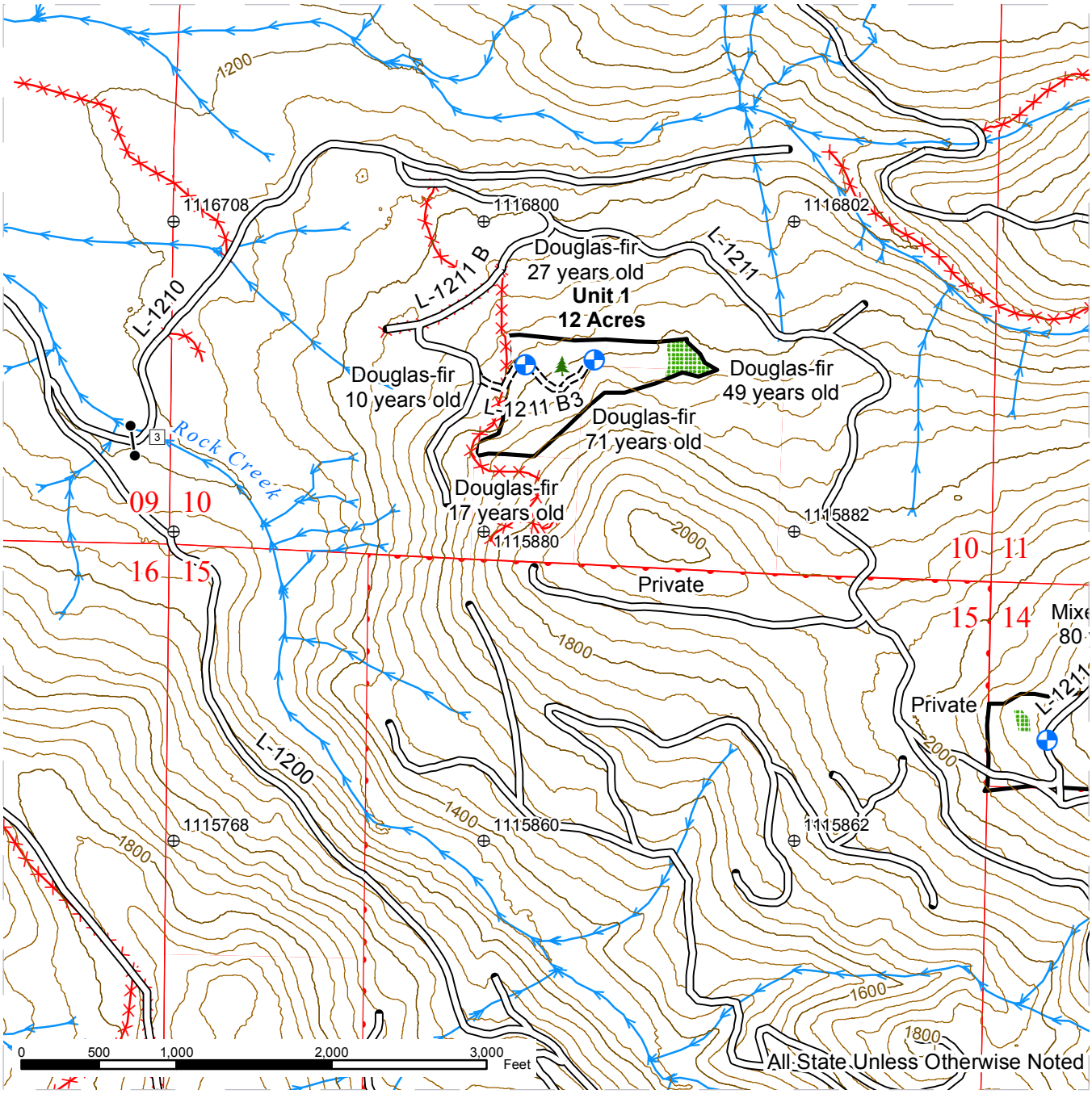
Position and Agency/Organization NRS 1/ Department of Natural Resources

Date Submitted: 5/27/2016

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MOONSTER
APPLICATION #: None

COUNTY(S): CLARK
TOWNSHIP(S): T03R04E



Timber Sale Unit
Leave Tree Area
Existing Roads
New Construction
Existing Abandon/Orphan Road
Streams
Stream Type
Stream Type Break
Fish Passage Barrier
Landing - Proposed
Leave Trees
Gate (PCP 1-1)
Tics - 2000' Interval

N

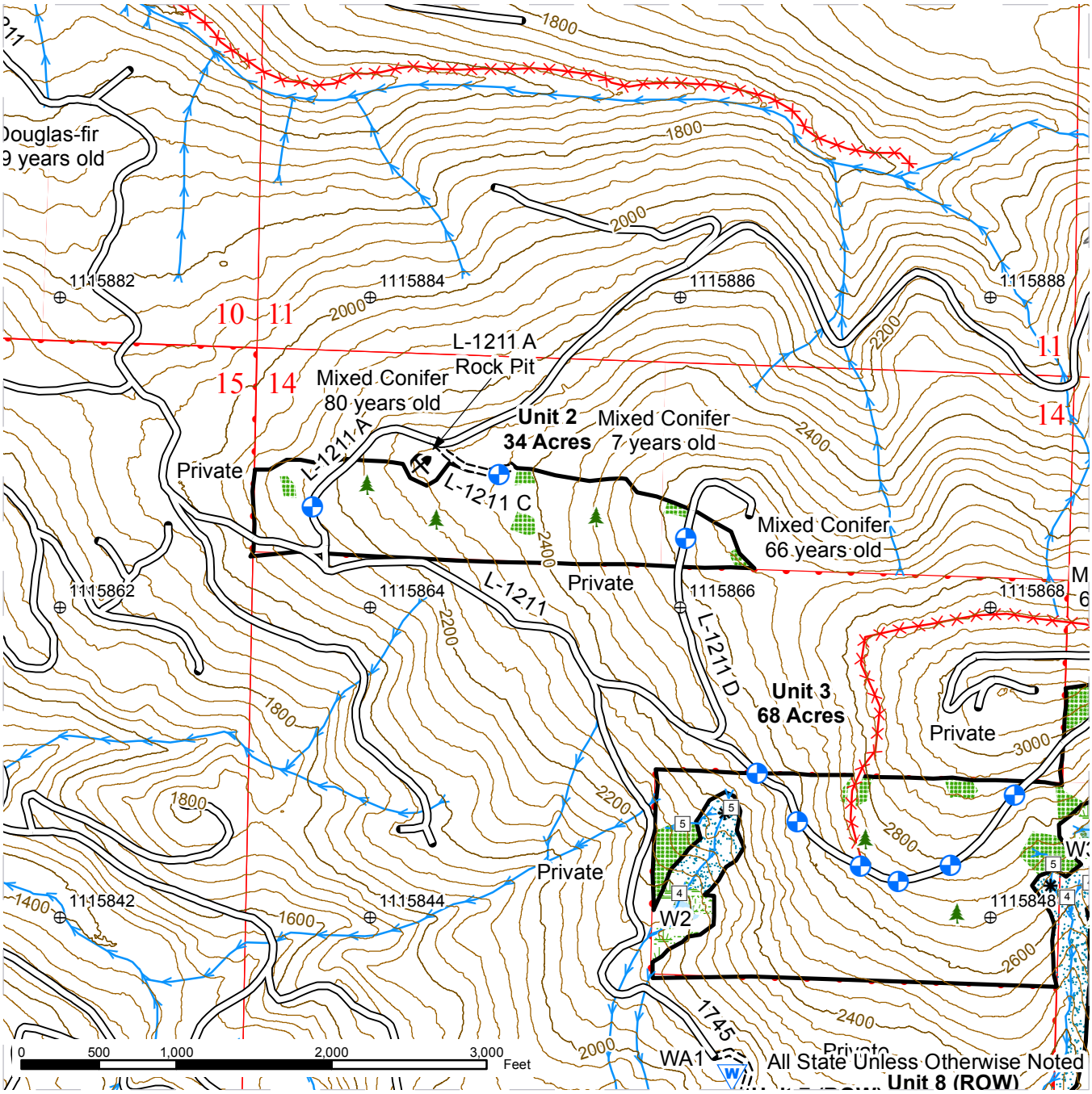
Prepared By: dsir490 01/27/2016

Modification Date: 4/1/2016

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MOONSTER
APPLICATION #: None

COUNTY(S): CLARK
TOWNSHIP(S): T03R04E



Timber Sale Unit	Existing Roads	Streams
Leave Tree Area	New Construction	Stream Type
Riparian Mgt Zone	Old Grades/Trails	Stream Type Break
Wetland Mgt Zone	Existing Abandon/Orphan Road	Fish Passage Barrier
Forested Wetland		Landing - Proposed
		Leave Trees
		Waste Area
		Existing Rock Pit
		Tics - 2000' Interval

N

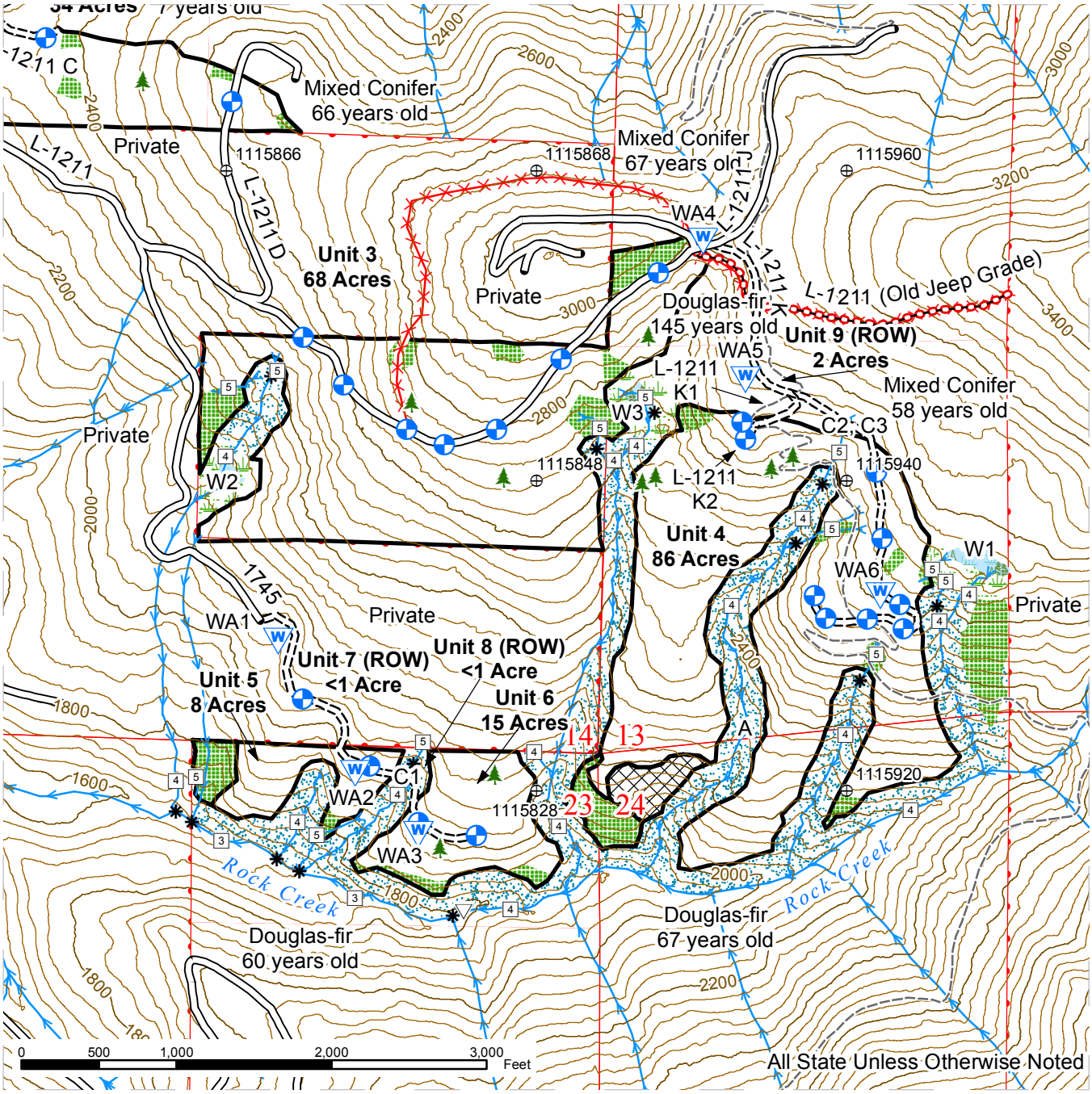
Prepared By: dsir490 01/27/2016

Modification Date: 4/1/2016

FOREST PRACTICES ACTIVITY MAP

SALE NAME: MOONSTER
APPLICATION #: None

COUNTY(S): CLARK
TOWNSHIP(S): T03R04E



Timber Sale Unit	Existing Roads	Streams
Leave Tree Area	New Construction	Stream Type
Riparian Mgt Zone	Required Abandonment	Stream Type Break
Wetland Mgt Zone	Old Grades/Trails	Fish Passage Barrier
Forested Wetland	Existing Abandon/Orphan Road	Landing - Proposed
Talus and Buffer		Leave Trees
		Waste Area
		Tics - 2000' Interval

N

Prepared By: dsir490 01/27/2016

Modification Date: 4/1/2016