# *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/sepa****. 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:* **PANAMA THIN** *Agreement* **#30-093592**

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

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

   **Marcus Johns**
   **Pacific Cascade Region**
   **P.O. Box 280 Castle Rock, WA 98611-0280**

4. Date checklist prepared: **01/21/2016**

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

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

   a. *Auction Date:* **01/26/2017**
   *6Planned contract end date (but may be extended):* **10/31/2019**
   b. *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.

   **No.**

<u>*Timber Sale:*</u>

a. *Site preparation:*

   **This proposal is a commercial thinning, no site preparation will be needed.**

b. *Regeneration Method:*

   **This proposal is a commercial thinning, no regeneration will be needed.**

c. *Vegetation Management:*

   **This proposal is a commercial thinning, no vegetation management will be needed.**

d. *Thinning:*

   **No additional commercial thinning's are planned.**

*Roads:*

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

*Rock Pits and/or Sale:*

**The W-2020 Road Pit will be used as a rock source for this sale as well as future road and associated forest management activities. There is a potential rock pit on the 1120.27 road.**

*Other:*

**Piled slash may be burned following harvest activities. 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):*
☐ *Landscape plan:*
☐ *Watershed analysis:*
☐ *Interdisciplinary team (ID Team) report:*
☒ *Road design plan:* **Available upon request at the Pacific Cascade Region office.**
☐ *Wildlife report:*
☐ *Geotechnical report:*
☐ *Other specialist report(s):*
☐ *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 Forest (PSF 2006); State Soil Survey; Habitat Conservation Plan (HCP 1997); HCP Checklist; Planning and Tracking Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): # 2502125. The following information is provided by DNR's GIS database: Weighted Old Growth Habitat Index (WOGHI); WAU Rain-On-Snow Layer; USGS and GLO maps, Marbled Murrelet Habitat Layer; Spotted Owl Habitat Layer; State Lands Geologist Remote Review(SLGRR) layer; and Statewide Landslide Inventory (LSI) screening tool maintained by the DNR Forest Practice Division.**

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.

☒*FPA #2932325* ☐*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*:

**Panama Thin has four thinning units, and is located in the Winston Creek Management Block. Rock will be obtained from the W-2020 pit and possibly the potential rock pit on the 1120.27 road. There will be cable and ground based harvesting methods.**

| Unit | Proposal Acres | RMZ No Harvest Acres | RMZ Thinning Acres | Existing Road Acres | Leave Tree Clump Acres | Harvest Acres |
|---|---|---|---|---|---|---|
| | *gross* | | | *within unit* | | *net* |
| 1 | 177 | 25 | 26 | 4 | 0 | 148 |
| 2 | 29 | 7 | 3 | 0 | 0 | 22 |
| 3 | 22 | 4 | 4 | 0 | 0 | 18 |
| 4 | 241 | 15 | 10 | 8 | 0 | 218 |
| Totals | 469 | 51 | 43 | 12 | 0 | 406 |

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

| Unit | Age | Species Composition |
|---|---|---|
| 1 | 34 years old | **Overstory:** Douglas-fir, red alder<br>**Understory:** sword fern, Oregon grape, salmonberry, huckleberry. |
| 2 | 34 years old | **Overstory:** Douglas-fir, red alder<br>**Understory:** sword fern, Oregon grape, salmonberry, huckleberry. |
| 3 | 34 years old | **Overstory:** Douglas-fir, red alder<br>**Understory:** sword fern, Oregon grape, salmonberry, huckleberry. |
| 4 | 34 years old | **Overstory:** Douglas-fir, red alder<br>**Understory:** sword fern, Oregon grape, salmonberry, huckleberry. |

**This proposal is a variable density thinning of 406 acres, of which 43 acres are located within Riparian Management Zones.**

*Overall unit objectives:*

**The objective of this proposal is:**

1) **Produce revenue for the Common School Trust (03) and for the Capital Grant (07) through the production of saw logs and pulp material.**

2) **Provide for wildlife and riparian habitat by developing vertical stand structure and age class distribution in the future stand.**
3) **Set riparian areas on an accelerated course towards older forest conditions.**

*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 | | **1,566** | **1** | **0** |
| Reconstruction | | **12,005** | | **0** |
| Pre-Haul | | **12,415** | | **0** |
| Abandonment | | **0** | **0** | **0** |
| Bridge Install/Replace | **0** | | | **0** |
| Culvert Install/Replace (fish) | **0** | | | **0** |
| Culvert Install/Replace (no fish) | **1** | | | |

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:* :

**T11N R2E S1 - Units 1, 2 and 3**
**T11N R2E S2 – Unit 1 and the Potential Rock Pit on the 1120.27 road.**
**T11N R2E S3 - W-2020 Pit**
**T11N R2E S10 - Unit 4**
**T11N R2E S11 - Unit 4**

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

**The proposal is located approximately 10 miles southwest of Mossyrock, WA. From Mossyrock, head west on Highway 12 to Winston Creek Road. Follow Winston Creek Road then Salmon Creek Road to the W-3000 road for Units 1, 2 and 3. Continue on Salmon Creek Road to the W-1120 for Units 4.**

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

| WAU Name | WAU Acres | Proposal Acres |
|---|---|---|
| **WINSTON** | **28885.70** | |
| Sub Basin #4 | **2213** | **119** |
| Sub Basin #7 | **1446** | **180** |

| | | |
|---|---|---|
| **SALMON CREEK** | **41436** | |
| Sub Basin #3 | **1422** | **60** |
| Sub Basin #5 | **1907** | **110** |

*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/sepa*** *for a broader landscape perspective.)*

**This proposal is located within the Winston and Salmon Creek WAUs. Agriculture and home sites are located in the valleys near the major streams with some home sites located in the uplands. The uplands are primarily managed for timber production. Ownership includes large industrial forests, small private forests, and DNR managed forests. Forest stands within the WAU appear to be almost exclusively second and third growth stands. A 1990 aerial photo indicates that many of the stands on private lands within the WAUs were regeneration harvested in the 1970s and 1980s. The number of Forest Practices shown on the WAU maps (referenced above on the DNR website), along with observations within the WAU, indicates that the remaining second growth timber stands are intensively managed. Management includes regeneration harvests, thinning, and partial cuts.**

**The following tables are an estimated summary of past and future activities on DNR-managed land and privately managed land in the Winston and Salmon Creek WAUs (information is based on Forest Practices applications that have been approved in the last seven years as of January 25th, 2016 compiled by the DNR's GIS database). No attempt was made to predict future timber harvest on private ownerships within the WAU. The source for this information only provided the acreage at the WAU level.**

| Winston 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 | 8,369 | 868 | 854 | 917 (estimated) | 1,685 (estimated) |
| PRIVATE OWNERSHIP | 20,517 | 2,136 (estimated) | 557 (estimated) | Unknown | Unknown |
| TOTAL | 28,886 | 3,004 (estimated) | 1,411 (estimated) | 917 (estimated) | 1,685 (estimated) |

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

| Salmon 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 | 4,362 | 506 | 574 | 656 (estimated) | 942 (estimated) |
| PRIVATE OWNERSHIP | 37,074 | 686 (estimated) | 1,009 (estimated) | Unknown | Unknown |
| TOTAL | 41,436 | 1,192 (estimated) | 1,583 (estimated) | 656 (estimated) | 942 (estimated) |

***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:**

- **Thinning within Riparian Management Zones (RMZ) to create large diameter trees and vertical structure, snag creation, and adding a component of Down Woody Debris (DWD) to the streams.**
- **Analyzing, designing, and constructing roads to minimize effects on the environment.**
- **Maintaining a no-harvest 25-foot inner zone along all Type 3-4 streams.**

**The thinning prescriptions will retain the larger dominant and co-dominant trees. Any shade-tolerant understory trees present will have a chance to grow into a second canopy layer over time.**

**Understory vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, and yarding. Most of the vegetation will robustly re-establish within 2 to 3 years.**

**To reduce the risk of potential erosion, road cut banks will be re-vegetated with native grass seed prior to the onset of wet weather to prevent sediment delivery and maintain soil stability.**

**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 Harmony Block was completed and approved. Road improvement projects identified in the RMAP began in 2003.**

## B. ENVIRONMENTAL ELEMENTS

### 1. Earth

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

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

**Winston WAU:**

**The sub-basins within the Winston WAU are generally hilly topography between 405 and 3,661 feet in elevation. There are some slopes up to 100% above the Cowlitz River, but most vary between 20% and 65%. There are no rain-on-snow zones in the sub-basins of this proposal. The WAU averages about 54 inches of precipitation per year. The major timber types are Douglas-fir and western hemlock.**

**Salmon Creek WAU:**

**The sub-basins within the Salmon Creek WAU are generally hilly topography between 67 and 2,634 feet in elevation. Most slopes vary between 20% and 65%. The WAU averages about 49 inches of precipitation per year. Rain-On-Snow Zones are as follows: None of the sub basins that the proposed sale is in have Rain-On-Snow Zones. Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with western hemlock and western redcedar on the upland soils. Red alder and bigleaf maple are found in the draws.**

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

**None**

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

**70%**

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 |
|---|---|
| **1105** | **SILT LOAM** |
| **1101** | **SILT LOAM** |
| **1102** | **SILT LOAM** |
| **7205** | **SLT.CLY.LOAM** |
| **3940** | **SILT LOAM** |
| **1145** | **SILT LOAM** |

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

**No.**

*1) Surface indications:* **None.**

*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 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:*

**There doesn't appear to be a direct correlation between timber harvest/road activities and slope failures in these sub-basins. The natural flow of streams tends to slowly cut the toe of slopes causing small failures.**

*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:*

**There were no shallow slope failures found in the proposal area. However, the proposal has planar slopes up to 50%, which is similar topography to other areas within the sub-basins that experienced shallow rapid slope failures adjacent to streams during the storms of 1996, 2007 and 2009 when southwest Washington experienced high amounts of precipitation. These storms were a good test to the**

**stability of the proposal.**

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

- **Cross-drains and ditchouts will be utilized to minimize the potential for mass wasting and slope failures associated with poor drainage.**
- **Waste end haul on full bench road construction with side slopes over 45%.**

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.

*Purpose:* **Road and Landing Construction.**
*Approx. acreage new roads:* **1** *Approx. acreage new landings:* **1**
*Approx. cubic yards of fill:* **190**
*Fill Source:* **Native material.**

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):*

**Less than 1% will be covered by impervious surfaces in the form of gravel roads and 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.**

- **Roads were located to maximize operational efficiency while minimizing new construction, and placed on ridge-tops where possible.**
- **Areas of soil exposed through road construction may be grass seeded.**
- **No harvest within Riparian Management Inner Zones for Type 3 and Type 4 streams.**
- **25' from white tags will be the Equipment Exclusion Zones along Type 3 and 4 streams.**
- **Roads will be constructed during dry weather conditions.**
- **Skid trails may be water barred as needed at the time of completion of yarding.**
- **Lead end suspension will be used to minimize soil disturbance.**

## 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 is burned 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

a. 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:*

**Winston Creek flows into Mayfield Lake. Salmon Creek flows into the Cowlitz River.**

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

| Lake, Pond, or Saltwater Name (if any) | Type | (how many?) | Width in feet (per side for streams) |
|---|---|---|---|
| Winston Creek | 3 | 1 | 192 |
| Unnamed stream | 3 | 6 | 192 |
| Unnamed stream | 4 | 13 | 100 |

| | | | |
|---|---|---|---|
| **Unnamed stream** | **5** | **52** | **None** |
| **Lake, Pond, or Saltwater Name (if any)** | **Type** | **(how many?)** | **Width in feet (per side for streams)** |
| **Wetland** | **Forested (<2.25 Acres)** | **2** | **None** |

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

**In Units 1 - 4, Riparian Forest Restoration Strategy (RFRS) Type II thinning prescriptions will be implemented on stream Type 3 and 4 RMZs. A 25 foot no harvest area is placed along Type 3 and Type 4 streams. A 50 foot Equipment Exclusion Zone will be in place to insure water quality, thermal cover and bank stability in RMZs. No wind buffers were needed.**

**Riparian areas associated with Unit 1 will be thinned to a basal area (BA) of 130, Unit 2 will be thinned to a BA of 120, and Unit 3 and 4 will be thinned to a BA of 140. In all RMZ treatment acres, 5 trees per treated RMZ acre will either be felled toward the stream or 3 felled towards stream and 2 trees into snags either topped or girdled, per DNR's RFRS strategy.**

**There are two wetlands under .25 acres that are bounded out in pink flagging.**

*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, except in the Riparian Restoration areas where some trees will be dropped in the streams for habitat and LWD restoration. Trees may be cut within no harvest portions of 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 and Type 4 RMZs, however, no timber will be yarded through them. Type 5 streams may have timber yarded across them.**

**Culverts: There will be a culvert installed in a Type 5 water at station 13+33 on the W-3200.**

**The RMZ thinning prescriptions in Units 1, 2, 3 and 4 were developed in accordance with the Riparian Forest Restoration Strategy. The primary goal of this additional harvest is to accelerate the current stand's trajectory towards a fully functional and structurally complex riparian forest. This will be accomplished by harvesting suppressed trees from the smallest diameter class, and retaining the dominant trees. Species diversity will also be maintained by only harvesting Douglas-fir and Red-Alder, leaving western redcedar and western hemlock when operationally feasible. The inner "no harvest" zone is bounded out of the thinning units 25 feet off of the 100 year flood plain.**

**Summary of current stand conditions and harvest prescriptions by unit for thinning units:**

| Unit # | current BA ($ft^2$/ac) | Current merchantable TPA | BA removal ($ft^2$/ac) | post-harvest BA ($ft^2$/ac) |
|---|---|---|---|---|
| 1 | 193 | 260 | 63 | 130 |
| 2 | 185 | 295 | 65 | 120 |
| 3 | 177 | 170 | 37 | 140 |
| 4 | 235 | 336 | 95 | 140 |

**To reach our desired future condition (BA of 300 sqft/acre, a quadratic mean diameter [QMD] of 21 inches and/or a canopy structure with 2+ layers) basal area from the smallest diameter class is proposed for removal. Harvest trees will be selected based on their characteristics such as tree form, disease and to help promote dominant tree growth. Additionally, harvest trees will be selected to protect unique structure and habitat while maximizing live crown ratios of remaining trees.**

*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 50 cubic yards of fill will be place over one 18' x 40" culvert in a Type 5 stream.**

*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 diversion will be necessary for the culvert installation on a Type 5 stream. 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 5 culvert installation 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. Generally, the sub-basin soils or terrain susceptible to surface erosion or mass wasting are located on slopes steeper than 70%.**

**Based upon current Department of Natural Resources timber harvest management practices as outlined above, the potential for eroded material to enter surface water is minimized. Some eroded material could enter the Type 5 stream channels during culvert installation and removal.**

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, 100-year return interval (suspected) 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. Many stream channels were affected by these events, including scouring, deposition of large woody debris, and alteration of pool/riffle ratios. The full extent of 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 could introduce small amounts of sediment into the streams associated with this proposal during wet weather within or adjacent to the proposal area as a result of road building and harvest activities. The erosion control measures and operation procedures outlined in B.1.d.5. and B.1.h. are anticipated to minimize sediment delivery.**

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 Winston WAU averages 5.0 miles per square mile, Salmon Creek WAU averages 4.9 miles per square mile. Sub-basins are similar to the WAU average as the area is largely forest land with little development. Winston WAU has a higher number of road miles per square mile due to the amount of private ownership and 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:*

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?*

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):*

**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:*

**Based on the protection measures outlined 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.*

**There are several protection measures being implemented to minimize peak flow:**

- **Only a portion of the canopy will be removed in the commercial thinning Units 1, 2, 3 and 4.**
- **The RMZs have a designated 25 foot 'no harvest' inner zone.**
- **Installing culverts on roads to divert water to the forest floor before entering live water.**
- **Grass seeding cut banks to reduce erosion potential.**
- **RMZs on stream Type 3 and 4 waters will follow RFRS Prescriptions.**
- **See 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 private wells downstream (approximately 0.2 miles) from the proposal. There are no know areas of slope instability downstream of the proposal. Due to the harvest size protection measures, impacts on ground water levels are anticipated to be minimal. Based on the protection measures outlined in B.1.d.5, and B.1.h, impacts to this area are not anticipated.**

a. *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 logging slash, may enter surface water.**

a. *Note protection measures, if any.*

**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.2., and B.3.a.16.**

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

**Surface and subsurface flow may be intercepted by roads and associated cut banks**

**and ditches. Any intercepted water will be diverted to the forest floor via ditch-outs and cross drain culverts. No significant changes to drainage patterns are expected.**

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:

☒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:

☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **Oregon Grape, Blackberry, Sword fern.**

☐grass

☐pasture

☐crop or grain

☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☐other:

☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:

☐other types of vegetation:

☐*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.)*

**<u>Units 1-4</u>: A portion of the conifer and hardwood trees will be removed as part of this harvest proposal (as outlined in B.3.a.2), except the trees and the vegetation within the no-harvest RMZs. Understory vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, and yarding. Most of the understory vegetation will re-establish within 2 – 3 years after**

**forestry activities are complete.**

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/sepa** (Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales.")*

**Unit 1: To the west is a 41 year-old Douglas-fir plantation. To the north and south is RMZ and 33 year-old Douglas-fir plantations. To the west is an RMZ.**

**Unit 2: To the northeast is RMZ and a 34 year-old Douglas-fir plantation. To the south is a 40 year-old Douglas-fir plantation. To the west and east is an RMZ.**

**Unit 3: To the west is a 34 year-old Douglas-fir plantation. To the south is a 40 year-old Douglas-fir plantation. To the north and east is an RMZ.**

**Unit 4: To the west is a 40 year-old Douglas-fir plantation. To the northwest is private property. To the north is a 34 year-old Douglas-fir plantation. To the east is an RMZ and a 35 year-old Douglas-fir plantation. To the south is private property, RMZ and a 35 year-old Douglas-fir plantation.**

2) *Retention tree plan:*

**None. This sale is a commercial thinning.**

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

**None found in database search or observed onsite.**

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

**None.**

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

**Scotch broom has 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:

mammals: ☒deer, ☒bear, ☒elk, ☒beaver, ☒other: **Coyote**

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).*

**None known.**

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 Colombia River flyway, which is a part of the Pacific flyway. The area for this proposal 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 DNR's Habitat Conservation Plan.**

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

**This sale has been designed to comply with the Department's HCP and provide for the protection of wildlife and their habitats.**

**The stands of Units 1-4 will remain fully stocked post-harvest, with a more open understory which will provide feeding, roosting, and nesting opportunities for wildlife. In addition, the riparian treatment will include snag and down wood recruitment, and will create a multi-canopied, larger diameter stand faster than not thinning.**

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

**<u>Units 1-4:</u>**

**Riparian habitat:**

- **Inner zones adjacent to all Type 3-4 streams will not be thinned.**
- **Five trees per RMZ acre will be selected from the first 25 to 50 feet outside the "No Harvest" zone and felled towards the typed water to serve as down wood, 2 of which maybe topped or girdled for snag creation.**
- **Roads not abandoned will be properly maintained to prevent sediment delivery into water.**

**Upland habitat:**

- **Units will be thinned from below in order to improve tree growth and vigor.**
- **Snags will be retained where operationally feasible.**

- **Small forested wetlands less than ¼ acre were removed from the harvest area.**

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

**Invasive animal 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 discharged 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 Highway 12. This is normal activity for this area and is consistent with existing traffic. Noise will be increased during daylight hours generated 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.)*

**These trust lands are managed for timber production by the Department of Natural Resources. Adjacent properties are a mix of home sites used for agricultural, grazing and other timber producing forestlands. There should be no effect on nearby or adjacent properties to the proposed sale.**

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?

**This proposal site has been used as working forest lands. This proposal will retain the site in working forest lands.**

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 are no anticipated effects on this or adjacent lands that would affect normal forest land business operations. Equipment access, application of pesticides 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?

**Forest Resource Lands.**

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?

**None.**

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?

**None.**

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 Forest Practices 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?

**Views in the background will be temporarily altered by the removal of trees.**

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

☐*No* ☒*Yes, viewing location:*

**Unit 4 is visible from Salmon Creek Road and associated scattered houses.**

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?*

**Since the majority of the landscape in this area is used for timber production (public & private), this proposal will generally blend in with the surrounding landscape.**

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?

**None.**

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?

**There is no designated recreation within the proposal area. However, hunting, hiking, horseback riding, mountain biking, mushroom and berry picking, and other informal outdoor recreation activities may occur within the proposal area.**

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

**Some types of informal recreation may be displaced during periods of active logging.**

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

**None at this time.**

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 Archaeologist and a DNR Cultural Resource Technician, reviewing GLO and Historic maps, and existing recorded historical sites that have been recorded by DAHP. A copy of this survey has been forwarded to DAHP and the tribes involved.**

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.

**US 12, Winston Creek Road and Salmon Creek Road provide access to the forest roads that access the proposal area.**

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 Mossyrock, WA, which is approximately 10 miles northeast of the 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: Mary D. Robertson

Name of signee For Greg Deyoe Mary D. Robertson

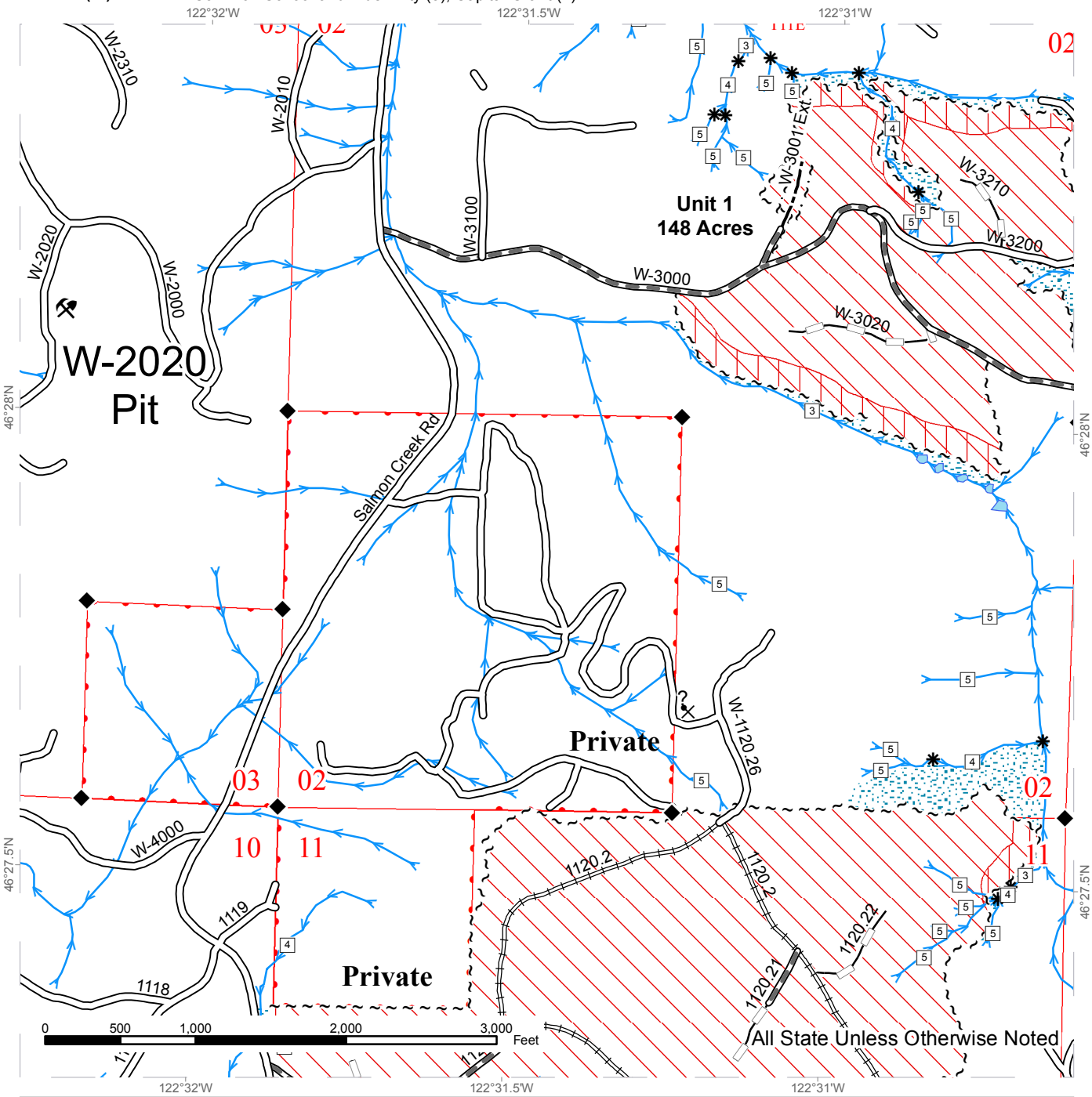
Position and Agency/Organization **Forester/DNR** Product Sales Forester 2.

Date Submitted: **8-3-16**

# TIMBER SALE MAP

**SALE NAME:** Panama Thin
**AGREEMENT #:** 30-093592
**TOWNSHIP(S):** T12 R02 E, T11 R02 E
**TRUST(S):** Common School and Indemnity (3), Capital Grant (7)

**REGION:** Pacific Cascade Region
**COUNTY(S):** Lewis
**ELEVATION RGE:** 690-1261




Thinning
Riparian Restoration
Riparian Mgt Zone
Sale Boundary Tags
Right of Way Tags
Existing Roads
Pre-Haul Maintenance
Required Reconstruction
Optional Construction
Optional Reconstruction
Streams
Stream Type
Stream Type Break
Monumented Corners
Existing Rock Pit
Potential Rock Source

N

Prepared By: gdey490

Modification Date: 5/5/2016

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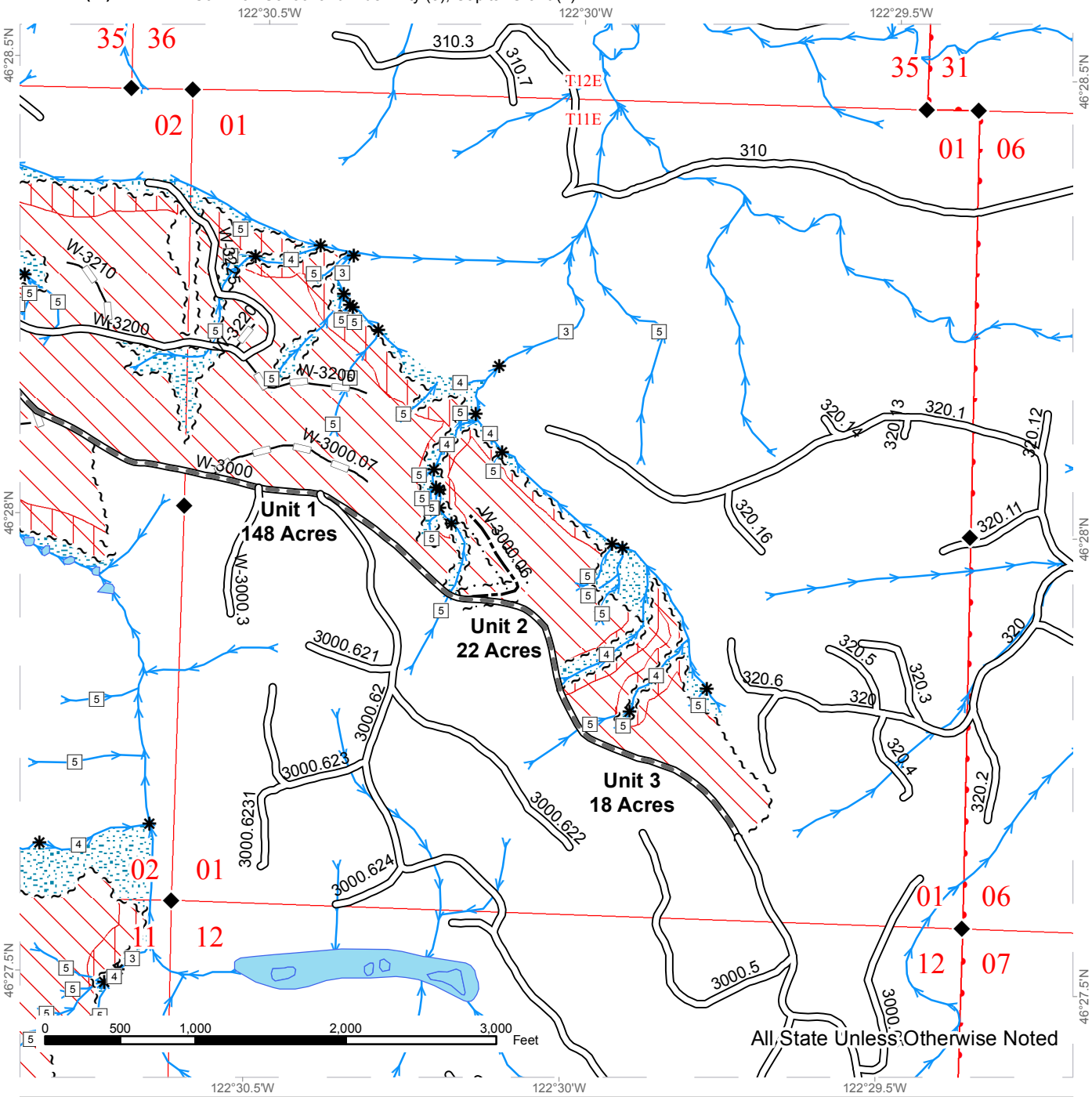


Variable Retention Harvest
Thinning
Riparian Restoration
Riparian Mgt Zone
Sale Boundary Tags
Right of Way Tags
Existing Roads
Pre-Haul Maintenance
Optional Construction
Optional Reconstruction
Streams
Stream Type
Stream Type Break
Monumented Corners

N

Prepared By: gdey490

Modification Date: 5/5/2016

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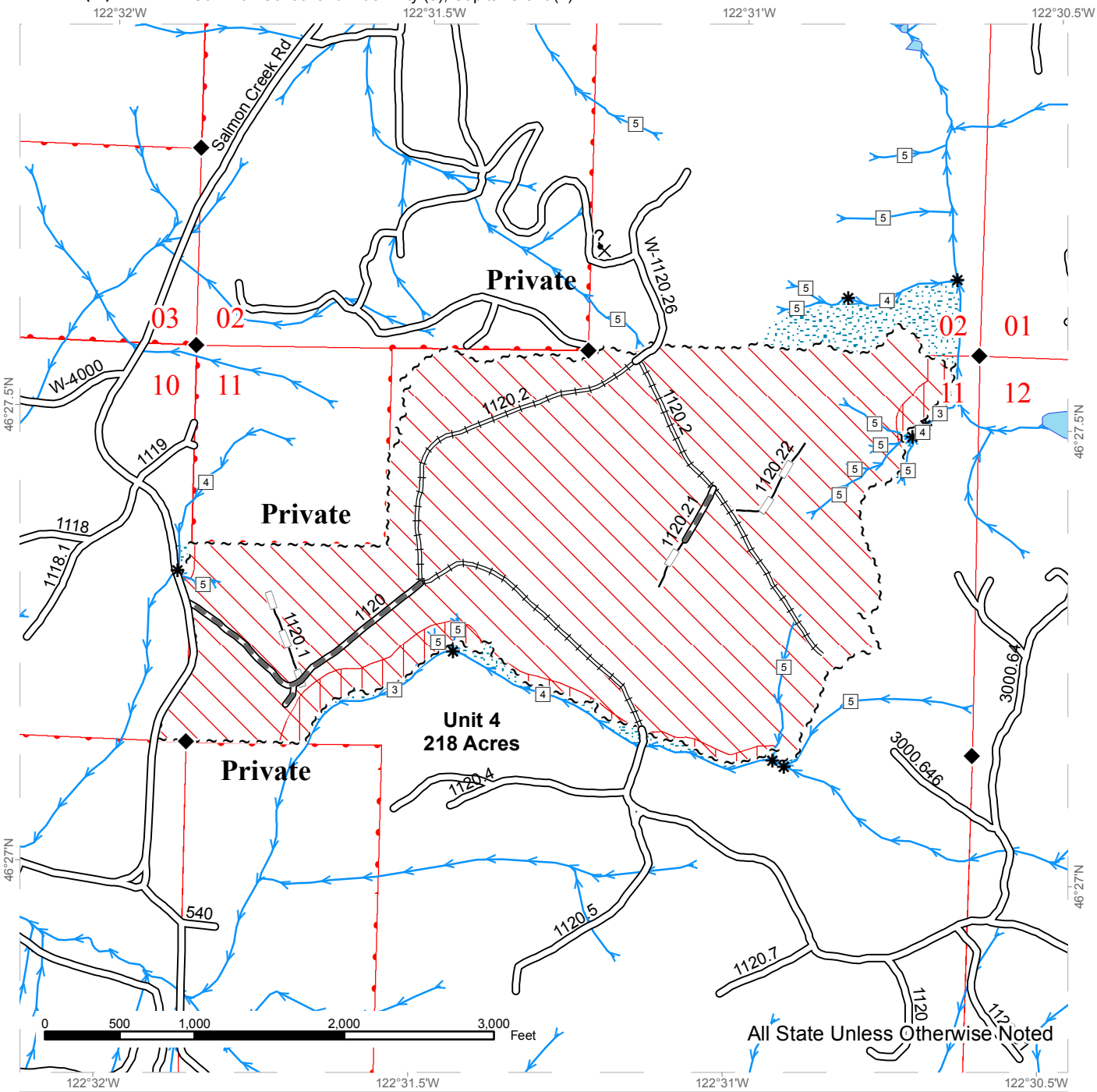


| | | |
|---|---|---|
| Thinning | Sale Boundary Tags | Streams |
| Riparian Restoration | Existing Roads | Stream Type |
| Riparian Mgt Zone | Pre-Haul Maintenance | Stream Type Break |
| | Required Reconstruction | Monumented Corners |
| | Optional Reconstruction | Potential Rock Source |

N

Prepared By: gdey490

Modification Date: 5/5/2016