

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/state-environmental-policy-act-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: **LOLLYPOP VRH and VDT** *Agreement #* **30-093477**

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

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

4. Date checklist prepared: **08/09/2016**

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

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

a. *Auction Date:* **03/28/2017**

b. *Planned contract end date (but may be extended):* **10/31/2018**

c. *Phasing:* **Not applicable**

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 prep, 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 following harvest. 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 years of age for conifer species. 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.

Unit 8 will be assessed in 25 years to determine if additional thinning treatments are needed to meet the objectives of the Riparian Forest Restoration Strategy.

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 decommissioning are associated with forest management activities.

Rock Pits and/or Sale: The existing State owned Five Forks and Porter Pass Quarries will be used with this proposal.

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): Porter Creek, Chehalis River, and Kennedy Creek
- Landscape plan:
- Watershed analysis: Kennedy Creek Watershed Analysis (1995)
- Interdisciplinary team (ID Team) report:
- Road design plan: Road Plan by James Crawford (9/22/2016)
- Wildlife report:
- Geotechnical report:
- Other specialist report(s): Riparian Forest Restoration Strategy Memo, dated 8/9/16
- Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):
- Rock pit plan: Attached to Road Plan (9/22/2016)
- 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); Planning and Tracking Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): #240657. 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; Communications with State Lands Licensed Geologist.

Referenced documents may be obtained for review from the South Puget Sound Region Office in Enumclaw during the SEPA comment period.

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 FHPA Burning permit Shoreline permit Incidental take permit 1168 & PRT 812521 Existing HPA Other: Board of Natural Resources approval

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:*

Lollypop VRH and VDT is a seven unit variable retention harvest (VRH), one unit variable density thinning (VDT), and three road right of way (ROW) units in the Capitol State Forest. The area selected for consideration was greater than 163 gross acres then reduced to 153 net acres after leave trees and protection of streams and wetlands. Approximately 6720 mbf of mixed conifer and some hardwood will be harvested. Approximately 8 leave trees per acre (TPA) larger than 10 inches in diameter at breast height will be retained in leave tree clumps distributed throughout the units, many leave tree clumps were used to protect sensitive areas. The VDT unit is a RMZ thinning and a fully stocked stand will remain.

Road work associated with this proposal consists of 30,366 feet of required pre-haul maintenance to install additional cross-drains, reshape the road surface, apply surface rocking, and clean ditches to improve drainage, and, 6,304 feet of optional construction and 65 feet optional reconstruction with the potential construction and reconstruction decommissioned if the native surface is used.

Unit 1

- **Approximate Net Acres: 7**
- **Type of Harvest: VRH**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 355 mbf**

Unit 2

- **Approximate Net Acres: 18**
- **Type of Harvest: VRH**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 824 mbf**

Unit 3

- **Approximate Net Acres: 17**
- **Type of Harvest: VRH**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 656 mbf**

Unit 4

- **Approximate Net Acres: 3**
- **Type of Harvest: VRH**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 161 mbf**

Unit 5

- **Approximate Net Acres: 19**
- **Type of Harvest: VRH**
- **Logging System: Ground and Cable Based**
- **Estimated Removal Volume: 823 mbf**

Unit 6

- **Approximate Net Acres: 53**
- **Type of Harvest: VRH**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 2080 mbf**

Unit 7

- **Approximate Net Acres: 31**
- **Type of Harvest: VRH**
- **Logging System: Ground and Cable Based**
- **Estimated Removal Volume: 1697 mbf**

Unit 8 RMZ thinning

- **Approximate Net Acres: 2.8**
- **Type of Harvest: VDT**
- **Logging System: Ground Based**
- **Estimated Removal Volume: 227 mbf**

Road Right-Of-Way

- **Approximate Net Acres: 2**
- **Estimated Removal Volume: 63 mbf**

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

Pre-harvest Stand Description:

Unit	Age	Species Composition
1	79-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
2	81-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.

3	34-73-years-old	Overstory: Douglas-fir, grand fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
4	73-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
5	73-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
6	63-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
7	58-73-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
8 VDT	63-66-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
9 ROW	4-73-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
10 ROW	18-34-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.
11 ROW	18-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry.

Type of Harvest: This proposal is a variable retention harvest with eight leave trees per acre in 7 units, a variable density thinning for one riparian enhancement, and 3 right-of-way units totaling 153 net harvest acres.

Overall Unit Objectives: The objective of this proposal is to produce revenue for the State Forest Transfer (01), State Forest Purchase (02), Common School (03), and Forest Board Repayment (42) trusts through the production of merchantable timber.

Short-term objectives:

- **Create revenue for trust beneficiaries through timber harvest.**
- **Provide legacy trees for the future stands. Residual trees will be well distributed throughout the harvest unit and will create structural diversity over time and will provide habitat for various species of animals and plants.**
- **Native conifer stands will be established within two years of harvest. The growth of these trees may be enhanced and managed by altering the density of the plantation through pre-commercial thinning in order to produce future high quality timber.**
- **Type 3 and Type 4 streams and wetlands will be protected in riparian management zones and wetland management zones. Type 5 streams will be protected through use of equipment limitation zones.**
- **Within Unit 8 (VDT) of this proposal, riparian thinning is to accelerate the development of the riparian stand toward a mosaic of structurally complex riparian forests and restore riparian habitat functions. This includes growing large, site-adapted conifer trees, creating snags, contributing down woody debris (DWD) and in stream large woody debris (LWD) to the riparian habitat, initiating canopy layering and protecting existing structural components such as snags. The long-term habitat restoration goal is to bring this riparian forest to fully functional forest stage.**

Long-term objectives:

- **The primary objectives of the treatment will be to stimulate wood production, generate trust revenue, create new canopy layers, and enhance important structural components and stand conditions.**
- **Timber Stand Improvement: a series of intermediate thinning and harvests will be scheduled as needed during the development of the new stands.**
- **Resource Protection: the protection of soil productivity and water quality will remain priorities. Each harvest prescription will be crafted to prevent soil erosion and limit compaction. Large coarse woody debris and recruitment snags will be left to contribute to site productivity. Management activities within the established RMZs and WMZs will be designed to maintain protection of water quality.**
- **Create a sustainable source of revenue for trust beneficiaries.**
- **Maintain hydrologic maturity across DNR managed lands.**

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		6304	2.3	
Reconstruction		65		
Abandonment		0	0	
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)	35			

*1 culvert is for a Type 5 stream crossing, 34 culverts are cross drains.

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. (See site plan and topographic maps on DNR website: <http://www.dnr.wa.gov/state-environmental-policy-act-sepa> Click on the DNR region under "Current SEPA Actions – Timber Sales.")

a. Legal description: :

Units:

T18N R3W S19

T18N R4W S24

T18N R4W S25

T18N R4W S26

Five Forks Quarry:

T18N R4W S22

Porter Pass Quarry:

T18N R4W S35, 26

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

Lollypop Units 1 through 11 of this proposal are located approximately 12 miles from the town of Olympia, Washington. From Olympia via State Route 8 (milepost 16.1), turn south onto the B-Line (Rock Candy Mountain Rd SW), south onto B-5000, or north onto B-6000 or B-7000.

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

WAU Name	WAU Acres	Proposal Acres
PORTER CREEK	25451.90	54
Sub-basin #3	4073	54*
KENNEDY CREEK	22840.80	109
Sub-basin #8	3086	109*

*Gross acres of project area.

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/state-environmental-policy-act-sepa> for a broader landscape perspective.)

This proposal is located within the Porter Creek and Kennedy Creek Watershed Administrative Units (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, 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 indicate 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 Porter Creek and Kennedy Creek Watershed WAU (information is based on Forest Practices applications that have been approved in the last seven years as of August 10, 2016 compiled by the Department’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.

Kennedy 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	9287	397	350	406 (estimated)	0 (estimated)
Other OWNERSHIP	13,554	888 (estimated)	220 (estimated)	Unknown	Unknown
TOTAL	22,841	1285	570	480	0

Porter 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	23,905	1,568	306	1,971 (estimated)	0 (estimated)
Other OWNERSHIP	1,547	91 (estimated)	19 (estimated)	Unknown	Unknown
TOTAL	25,452	2,025	325	1,971	0

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) averaged 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.
- Evaluating the proposal for potential slope instability, and excluding areas that exhibited indicators of potentially unstable slopes.
- Retaining 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.
- Analyzing, designing, and constructing roads to minimize effects on the environment.

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.

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).*

Kennedy Creek WAU contains steep slopes and mountainous terrain. Most steep slopes can be found alongside stream edges. Precipitation for the WAU averages 52 inches per year. Minimum elevation is 0 feet to a maximum of 2,286 feet with an average elevation of 494 feet. The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with western hemlock and western red cedar on upland soils and red alder and big leaf maple in wet areas or in draws.

Porter Creek WAUs contains steep slopes and mountainous terrain. Most steep slopes can be found alongside stream edges. Precipitation for the WAU averages 58 inches per year. Minimum elevation is 25 feet to a maximum of 2,662 feet with an average elevation of 1,101 feet. The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with western hemlock and western red cedar on upland soils and red alder and big leaf maple in wet areas or in draws.

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

The proposal location description is very similar to the WAU descriptions.

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

75 percent.

- 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.

Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture	% Slope	Mass Wasting Potential	Erosion Potential
1639	V.GRAVELLY LOAM	3-15	INSIGNIFIC'T	LOW
0578	SILT LOAM	20-40	LOW	MEDIUM
0575	SILT LOAM	5-20	INSIGNIFIC'T	MEDIUM
6640	SILT LOAM	65-90	HIGH	HIGH
5689	SILT LOAM	20-40	LOW	MEDIUM
1640	V.GRAVELLY LOAM	15-30	INSIGNIFIC'T	LOW
0657	GRAVELLY SILT LOAM	30-65	MEDIUM	HIGH

None of these soils are on agricultural land of long-term significance. No soils will be removed from the site.

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

1) *Surface indications:*

A DNR State Lands licensed engineering geologist remotely reviewed all units of the sale utilizing historic aerial photographs and digital data. The results of the geologist review, available in the State Lands Geologist Remote Review (SLGRR) tool, indicated a potential field review for Units 3, 4, as well as Unit 5 as recommended by the forester. Based on the State Lands licensed engineering geologist and forester's field review, no Forest Practices rule-identified potentially unstable slopes or landforms were identified in or around Units 3 and 4. Unit 5 was found to have a translational deep-seated landslide, which was excluded from the sale area with "Timber Sale Boundary" tags. Also, other areas within the sub-basins experienced shallow rapid slope failures adjacent to streams during the storm events of 2007 and 2009 when southwest Washington experienced high amounts of precipitation.

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:

The landslide inventory for the Kennedy Creek WAU watershed analysis includes several small, shallow landslides and two large, deep-seated landslides in sub-basin #8. None of these are in the vicinity of the proposal area. To our knowledge, there is no published landslide inventory that includes sub-basin #3 of the Porter Creek WAU. Some natural landslides were triggered in the sub-basins during intense rain-on-snow storm events in 2007 and 2009, impacting downstream public roads and private property.

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:

As indicated above, the area experienced intense rain-on-snow storm events in 2007 and 2009. Several landslides were triggered in Sub-basin #8 of the Kennedy Creek WAU, and we are aware of at least two storm-related shallow landslides that initiated during these storms in sub-basin #3 of the Porter Creek WAU. Some of these were or may have been related to timber harvest or roads.

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:

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

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

- **Remote and field reviews were conducted to ensure that all identified potentially unstable slopes and landforms were excluded from the proposal. For example, we identified an area of recent deep-seated movement and excluded it from the Unit 5 harvest area.**
- **Stream culverts on haul routes will be replaced as needed with larger culverts to reduce flow impediment.**
- **Cross-drains and ditch-outs will be installed to minimize the potential for slope failures associated with poor drainage. A cross-drain will be installed to assist in dispersing ditch water away from the identified deep-seated movement mentioned previously in this question.**
- **Lead end log suspension during yarding.**
- **Skid trails may be water barred post harvesting activities, if necessary to avoid concentrating surface water runoff.**

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: Culvert replacements and new construction

Approx. acreage new roads: 2.3 Approx. acreage new landings: 1.5

Fill Source: Five Forks Quarry and Porter Pass Quarry or 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. Incidental erosion may occur within the sale boundaries but should be confined to the area of disturbance by vegetation left on-site and erosion control measures.

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):*

All new roads will cover less than 1 percent of the proposal area with impervious rock surfacing.

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 protection measures are addressed in the sale layout and harvest system design.

- **The no harvest WMZs will function to protect streams and wetlands from sediment delivery.**
- **Leave tree clumps were left around the headwalls of some Type 5 streams and forested wetlands less than 0.25 acres in size.**
- **Harvested areas will be replanted with coniferous species to reestablish root bound soils.**
- **The proposal will be harvested utilizing lead end suspension to minimize soil disturbance.**
- **Skid trails may be water barred post harvesting activities, 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 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:*

There are multiple streams and wetlands. All waters within the Porter

Creek WAU flow to Porter Creek and Chehalis River. All waters within the Kennedy Creek WAU flows to Kennedy Creek and Puget Sound.

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)
Wetland	>0.25 & <1Acre	2	100
	Forested		
Wetland	<0.25 Acre	4	None
North Fork Porter Creek	3	1	Average 186, managed
Unnamed Stream	3	9	Average 165, 186, and 192
Unnamed Stream	4	1	100
Unnamed Stream	5	5	30 foot Equipment Limitation Zone (ELZ)

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

RMZ/WMZs for this proposal are designed in accordance with the Department's HCP procedures and their stream type identified by the streams physical characteristics. All RMZ/WMZs are measured horizontally from the edge of the 100-year floodplain.

Equipment limitation zones are required for Type 5 streams.

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):

Harvest will occur within 200 feet of the streams, but beyond the buffer distances listed above in all streams except one. One Type 3 buffer will be managed as a RMZ thinning (Unit 8). The Type 3 thinning was developed in accordance with the DNR's Riparian Forest Restoration Strategy. The primary goal of this thinning is to accelerate the current stand's trajectory towards a fully functional and structurally complex forest in the future. The inner 25 foot "no cut zone" of the thinning was bound out of the harvest unit with white "Timber Sale Boundary" tags. Nine individual dominant and co-dominant snag trees were selected and will be felled into or adjacent to streams to create pools and moderate stream flow to improve fish habitat. Another six trees were selected within 100 feet of the stream for snag creation trees.

Trees may be cut in RMZs or WMZs for safety or operational needs, but will be left in place to provide large woody debris functions in the riparian area. Tailhold cables and guylines may be strung through the Type 3 and Type 4 RMZs and WMZs but no timber will be yarded through them.

Timber harvest may occur over Type 5 streams and wetlands less than 0.25 acres. Type 5 streams and wetlands less than 0.25 acres may have timber yarded across them. If yarding occurs near Type 5 streams, a 30-foot Equipment Limitation Zone will be utilized to maintain stream function, stream bank integrity and minimize possible sediment delivery.

One live water culvert replacement will be included with this proposal on an existing road.

- 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.

When replacing the culvert, fill will be removed and replaced, but no fill will be installed in or below the high water mark. All work will be done in accordance with Forest Practice Rules.

- 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:

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

No Yes, describe location:

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:

This proposal could possibly 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 operation activity. The erosion control measures and operation procedures outlined in B.1.d.5. and B.1.h are expected to prevent sediment delivery.

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 percent. 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. In addition, within Kennedy Creek Sub-basin #8, option 1 of the Kennedy Creek Watershed Analysis Prescriptions for Surface Erosion #2 will be followed.

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 rain-on-snow 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 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 designed to avoid sediment delivery. Due to preventative measures required during the project,

activities associated with this project are not expected to affect water quality.

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:

Kennedy Creek WAU averages 6 miles per square mile. Porter Creek WAU averages 5.6 miles per square mile. 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 being in an urbanized environment or topography driven.

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):

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 rain-on-snow 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 temporarily change the timing, duration, and/or

magnitude of peak flows due to decreased evapotranspiration and canopy interception, 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 private surface water intakes approximately 1 mile downstream from the proposal. 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.*

- **Type 3 and Type 4 RMZs will maintain forest cover.**
- **Most Type 5 streams have been protected with leave tree clumps, and a 30-foot Equipment Limitation Zone will be utilized to maintain stream function, stream bank integrity, and minimize possible sediment delivery.**
- **Wetlands >0.25 and less than 1 acre have been protected with WMZs, and wetlands under 0.25 acres were protected with Equipment Limitation Zones (ELZs).**
- **The proposal's harvest units are each less than 100 acres to minimize impacts to watershed hydrology**
- **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.**
- **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:

Note protection measures, if any.

There are a few private wells downstream (one approximately 250 feet) from the proposal. Based on the protection measures outlined in B.1.d.5, and B.1.h, impacts to this area are not anticipated.

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:

a. *Note protection measures, if any.*

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

Slash which enters any typed stream and is identified by the Contract Administrator will be removed post-harvest. Additional crossdrains will be installed to diffuse concentrated water flow and spread it out on the forest floor. 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.

- 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.)

Due to wet soils, no logging or hauling will be allowed in Unit 2, 3, and 4 from November 1 through April 30 without the Contract Administrators approval.

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, vine maple

grass

pasture

crop or grain

wet soil plants:

cattail, buttercup, bullrush, skunk cabbage, devil's club,
 other: water parsley

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation: sword fern

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

Unit 1: To the north is a 17 year-old Douglas-fir stand. To the west is a 28 year-old Douglas-fir stand. To the east is a 12 year-old Douglas-fir stand. To the south is an 89 year-old Douglas-fir stand. To the southwest is an RMZ.

Unit 2: To the north is private residential and is approximately 91 year-old Douglas-fir stand. To the west is a 91 year-old Douglas-fir RMZ. To the east is private residential and is approximately 91 year-old Douglas-fir stand. To the south is a BPA corridor and gas pipeline.

Unit 3: To the north is private residential and is approximately 44 year-old Douglas-fir stand. To the west is a 24 year-old Douglas-fir stand and an 83 year-old Douglas-fir RMZ. To the east is a 44 year-old Douglas-fir RMZ. To the south is an 83 year-old Douglas-fir stand, gas pipeline, and BPA corridor.

Unit 4: To the north is 83 year-old Douglas-fir stand, and a gas pipeline. To the west is an 83 year-old Douglas-fir RMZ. To the east is an 83 year-old Douglas-fir stand. To the south is a BPA corridor.

Unit 5: To the north is a 25 year-old Douglas-fir stand. To the west is an 83 year-old Douglas-fir RMZ. To the east is an 83 year-old Douglas-fir RMZ. To the south is a 14-83 year-old Douglas-fir stand.

Unit 6: To the north is a 17-73 year-old Douglas-fir stand, and a BPA corridor. To the west is a 14-73 year-old Douglas-fir stand. To the east is a 17-76 year-old Douglas-fir stand. To the south is a 28 year-old Douglas-fir stand, and a 73 year-old Douglas-fir RMZ.

Unit 7: To the north is 7-25 year-old Douglas-fir stand. To the west is a 10 year-old Douglas-fir stand. To the east is a 83 year-old Douglas-fir stand, and 14 year-old Douglas-fir RMZ. To the south is a BPA corridor.

Unit 8 (RMZ): To the north is 73 year-old Douglas-fir stand. To the west is a 28 year-old Douglas-fir stand. To the east is a 73-76 year-old Douglas-fir stand. To the south is a 76 year-old Douglas-fir stand.

Unit 9 (ROW): The right of way runs through a 83 year-old mixed species leave tree clump from a previous timber harvest unit, and also a 14 year-old Douglas-fir stand.

Unit 10 (ROW): The right of way runs through a 28-44 year-old Douglas-fir stand, and BPA corridor.

Unit 11 (ROW): The right of way runs through a 28 year-old Douglas-fir stand, and BPA corridor.

2) Retention tree plan:

Retention tree clumps are identified across the harvest area. A combination of Douglas-fir, western hemlock, western red cedar, and red alder were left for green tree retention and snag recruitment. Retention tree numbers were based on leaving eight trees per acre. Trees were left in clumps, and many of them are protecting sensitive features. This type of leave tree pattern is conducive to a safe harvest operation and allows the distribution of wildlife trees throughout the proposal. Wind firm 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.

These clumps will provide a local seed source for native over story and understory species. Some natural regeneration of native species will occur on site after harvest. Retention trees were left in areas to protect snags, large down logs, wet areas, and Type 5 streams.

One Type 3 buffer will be managed as a RMZ thinning (Unit 8). The Type 3 thinning was developed in accordance with the DNR's Riparian Forest Restoration Strategy. The primary goal of this thinning is to accelerate the current stand's trajectory towards a fully functional and structurally complex forest in the future. The inner 25 foot "no cut zone" of the thinning was bound out of the harvest unit with white "Timber Sale Boundary" tags. Nine individual dominant and co-dominant snag trees were selected and will be felled into or adjacent to streams to create pools and moderate stream flow to improve fish habitat. Another six trees were selected within 100 feet of the stream for snag creation trees. Post-harvest stand conditions will be compliant with management parameters of the HCP and Forest Practice Rules. The use of retention trees will create a fully stocked stand after thinning in this unit.

- 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:**

Some natural regeneration of native species will occur on site after harvest. Leave trees from current stand will remain as described in retention tree plan above. The site will be replanted with native conifer species after harvest.

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

While no noxious or invasive plant species were found onsite, a comprehensive list of plants found throughout Thurston County can be found on the county's website.

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 found in database search or observed on site.

- 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 Pacific Flyway. Migratory waterfowl use the Pacific 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 Department's HCP and provides for the protection of wildlife and their habitats. 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 downstream fish populations. 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 Douglas-fir and western red cedar.

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

Species /Habitat: **Riparian habitat**

Protection Measures: **No harvest RMZs on most Type 3 streams. A 25 foot inner-zone no harvest buffer on the Type 3 stream in Unit 8 (VDT).**

Species /Habitat: **Upland habitat**

Protection Measures: **A minimum of 8 leave trees per acre were left clumped and scattered. Snags will be left where operationally feasible. Older large down woody debris will be left onsite.**

Species /Habitat: Marbled Murrelet

Protection Measures: This proposal is within the South Coast Planning Unit which has a Marbled Murrelet reclassified model. This proposal is not within any occupied stands, reclassified Marbled Murrelet habitat or released reclassified Marbled Murrelet habitat. Portions of this sale also are within the South Puget Planning Unit which does not have a Marbled Murrelet reclassified model. This proposal is not within any occupied habitat or unsurveyed suitable or potential habitat. There is a wildlife timing restriction that will be in effect in the eastern portion of Unit 2. In this area there will be no operation of heavy equipment within the critical nesting season (April 1 to August 31) during the daily peak activity periods (one hour before official sunrise to two hours after official sunrise and one hour before and after official sunset). Heavy equipment is identified as felling, yarding, and loading equipment for logging, and road maintenance and construction equipment.

Species /Habitat: Northern Spotted Owl

Protection Measures: This proposal is not located within a designated Spotted Owl Management Unit (SOMU) or within any Owl Areas, PR14-004-120.

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

Invasive animal species known to be in the geographic area include:

- **Starlings**
- **House sparrows**
- **Eurasian collared-dove**
- **Bullfrogs are found throughout the lowlands of Washington.**
- **Nutria are found in lakes, wetlands, sloughs, drainage ditches, and irrigation canals along the Columbia River and north to Skagit County.**
- **There are several exotic leafrollers of concern that are present in Washington.**

None of these species were 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.

Not applicable.

- 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:

Not applicable.

7. Environmental health

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 and no indications of contaminants observed on site.

- 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 will be used on site for operation of logging equipment.

Herbicides may be used for site-preparation and vegetation management within the new plantation following harvest. Herbicides will be used in accordance with Washington State Forest Practice and Department of Agriculture regulations.

- 4) Describe special emergency services that might be required.

There are no special emergency services required at this time. The Department of Natural Resources and fire protection district suppression crews may respond to wildfire in the proposal area. In the event of a hazardous materials 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:

During the fire season, April 15 through October 15, operators will comply with all State fire laws and have proper fire equipment on site. 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. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology. 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. Herbicides will be used in accordance with Washington State Forest Practice and Department of Agriculture regulations.

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 Route 8. 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:

In Units 1-3 harvest activities are not permitted on weekdays from 7:00 P.M. to 7:00 A.M., nor on weekends or State recognized holidays, unless authority to do so is granted in writing by the Contract Administrator.

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 and recreation by the DNR. There are also gas utility and power lines near the proposal. The private property surrounding the units appear to be used for residences and commercial business. Current use on nearby or adjacent properties should not be affected by this proposal.

- 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 area is currently being managed as forest lands. It will be replanted for continued forest management following harvest.

- 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:

No. The proposal is consistent with forest land normal business operations.

- c. Describe any structures on the site.

None.

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

No.

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

Long-term Forestry.

- 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?

Not applicable.

- 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:

Proposed timber harvest is designed to meet Forest Practices Rules, HCP Strategies, and Policies for Sustainable Forests.

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 proposed structures.

- 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:

Portions of the harvest area may be visible as background from residential areas around Summit Lake and along Kennedy Creek Road SW. The proposal will change the foreground views from designated recreation trails that are routed through or near the units.

- 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:

Portions of the harvest area may be visible from State Route (SR) 8.

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 background views will change from a stand of mature timber to a view of a recent harvest with mature trees remaining around Type 3, Type 4, and some Type 5 streams. There will also be clumps 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:

Leave tree clumps were scattered across all units to help reduce the aesthetic impacts.

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?

Designated recreational activities include trails in and adjacent to this proposal. Informal recreational activities include hunting, berry picking and sightseeing.

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

Informal recreational activities may be temporarily displaced during logging operations. Recreational activities on trails may be temporarily displaced during logging and road operations.

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

The affected portions of the trails will be posted with signs to inform trail riders of the activity. Portions of the affected trails will be closed while logging activities take place. Outreach and updates to recreational user groups concerning timing of activities. Trails will be cleaned or rebuilt after logging operations have been completed.

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. A previously recorded site was evaluated, and found to no longer exist.

- 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.

Cultural resources were not observed on or near the site. No professional studies were conducted at this site.

- 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.

This proposal was reviewed for archeological/historic resources using DNR's Planning and Tracking database and USGS and GLO maps. The proposal area was field checked by a DNR Cultural Resources Technician.

- 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 any unknown archaeological resources are encountered, ground disturbing activities would be halted and an Agency Archaeologist will be contacted to survey the site and develop a Site Protection Plan.

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.

Rock Candy Mountain Road SW (B-Line) and Highway 8 and the KC-Line provide access to the forest roads which access 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)?*

Yes. However, dust abatement may be required by the contract administrator on the B-Line from station 22+97 to 55+97 to reduce dust impacts to private property adjacent to the road.

- 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?

Not applicable.

- 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?*

There will be improvements to existing forest roads with post and pre-haul maintenance, construction and reconstruction.

- 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?

There may be 15 to 20 round trips per day while the operation is active. Peak volumes would occur during the yarding and loading activities between 5:00 a.m. and 7:00 p.m. of the operating period. No truck traffic will occur directly from this proposal once the project is complete.

- 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.

This proposed timber harvest will not affect or be affected by the movement of agricultural and forest products.

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.

c. **16. Utilities**

a. Check utilities currently available at the site:

electricity natural gas water refuse service telephone sanitary sewer
 septic system other:

These utilities do not service the site, but are near the proposal area.

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: Scott Sargent

Name of signee **Scott Sargent**

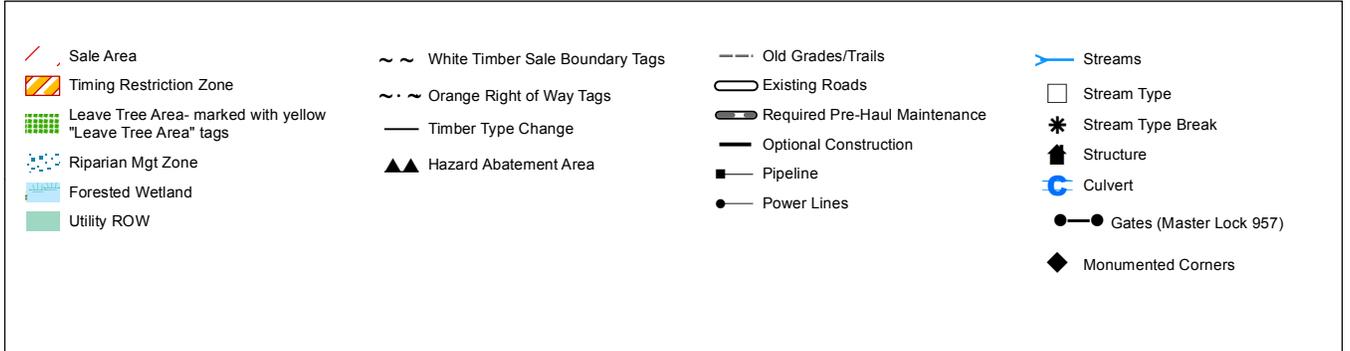
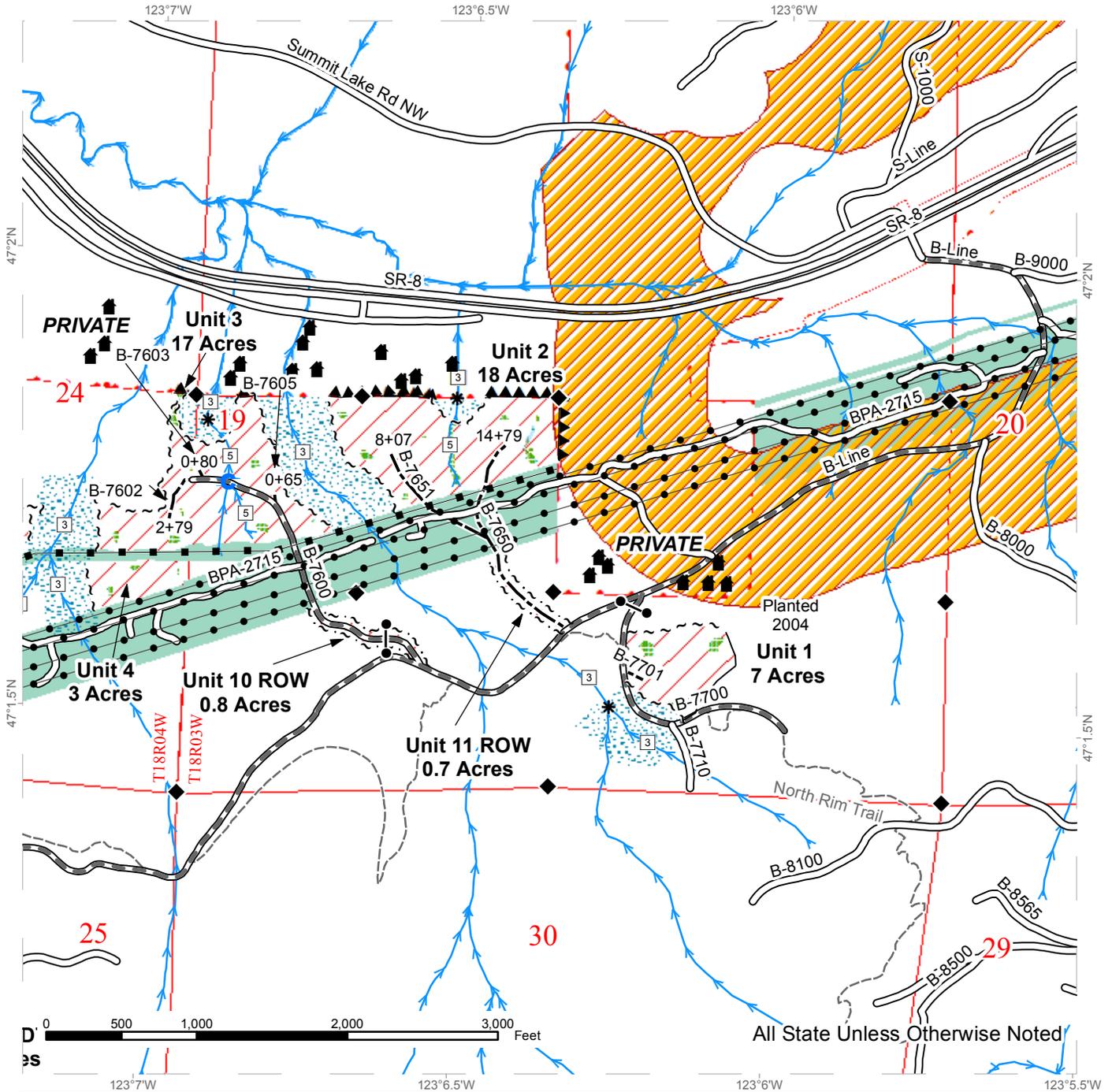
Position and Agency/Organization **State Lands Assistant Region Manager/WA DNR**

Date Submitted: 10/14/16 *AEM 10-5-16*

TIMBER SALE MAP

SALE NAME: LOLLYPOP
AGREEMENT #: 93477
TOWNSHIP(S): T18R04W, T18R03W
TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Forest Board Repayment(42)

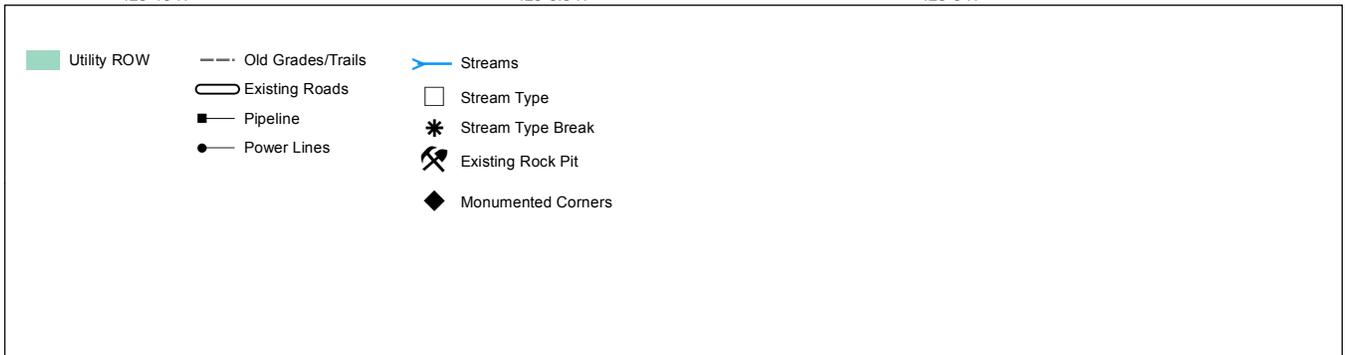
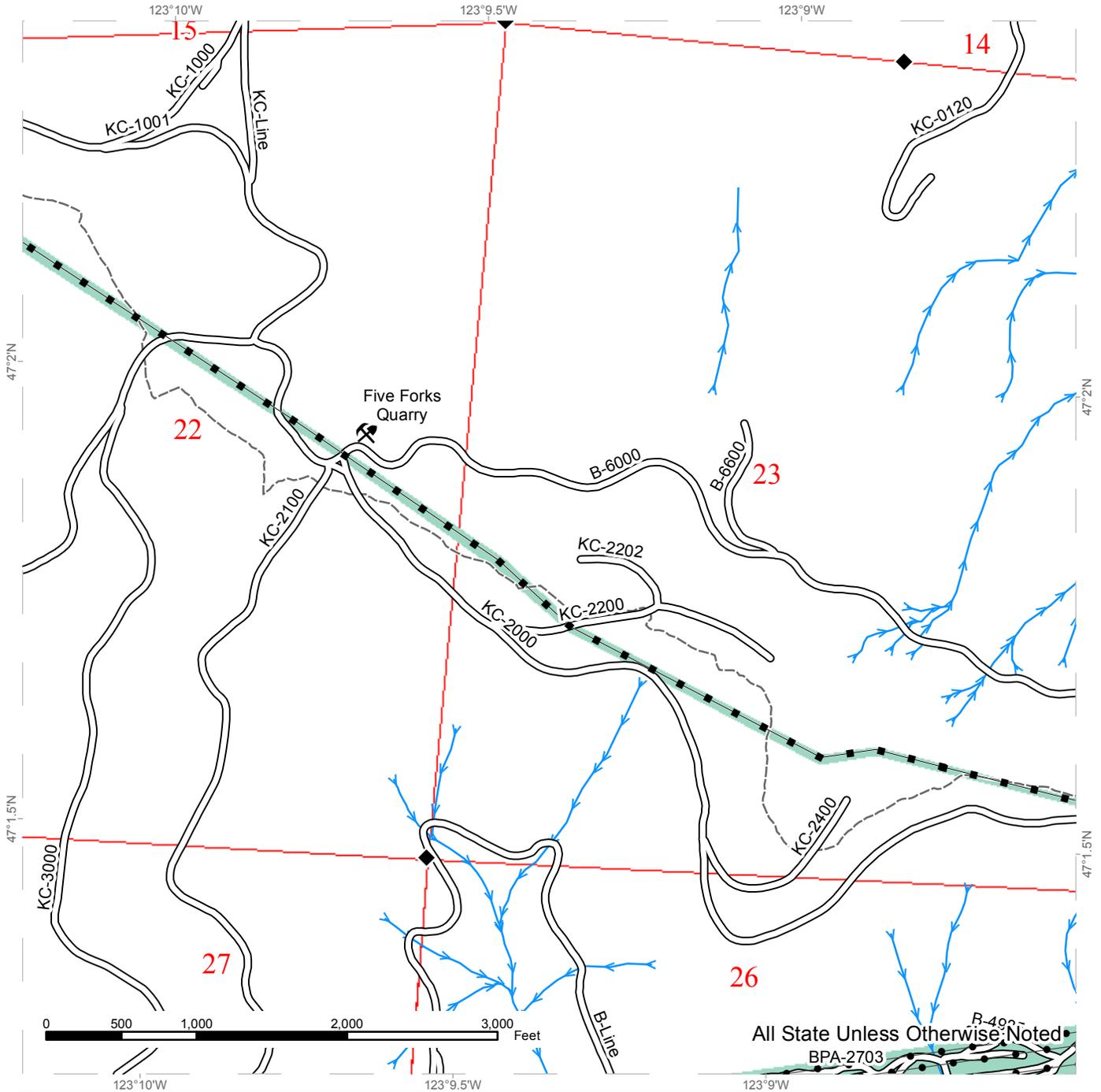
REGION: South Puget Sound Region
COUNTY(S): THURSTON
ELEVATION RGE: 567-1355



TIMBER SALE MAP

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AGREEMENT #: 93477
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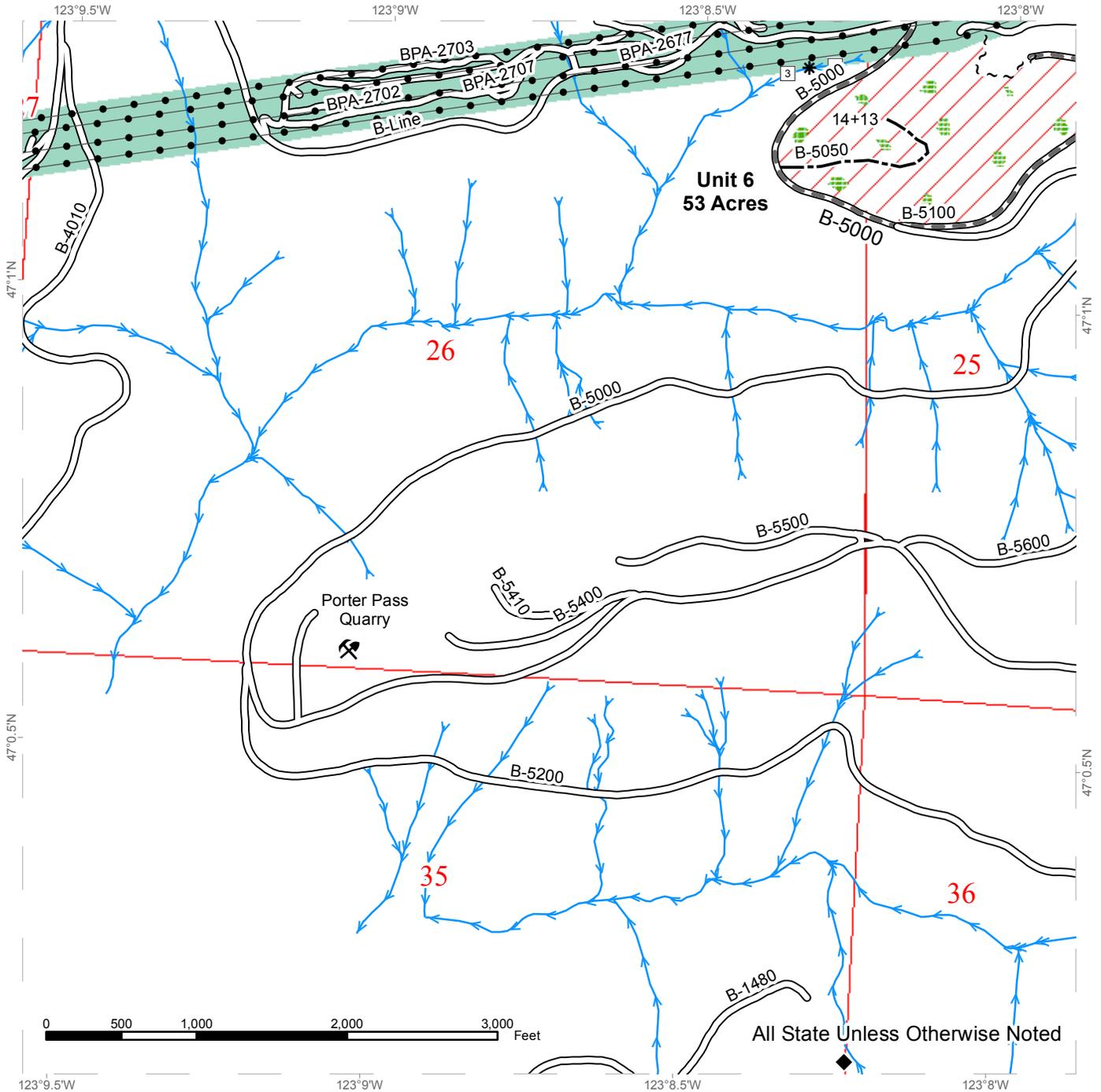
REGION: South Puget Sound Region
COUNTY(S): THURSTON
ELEVATION RGE: 567-1355



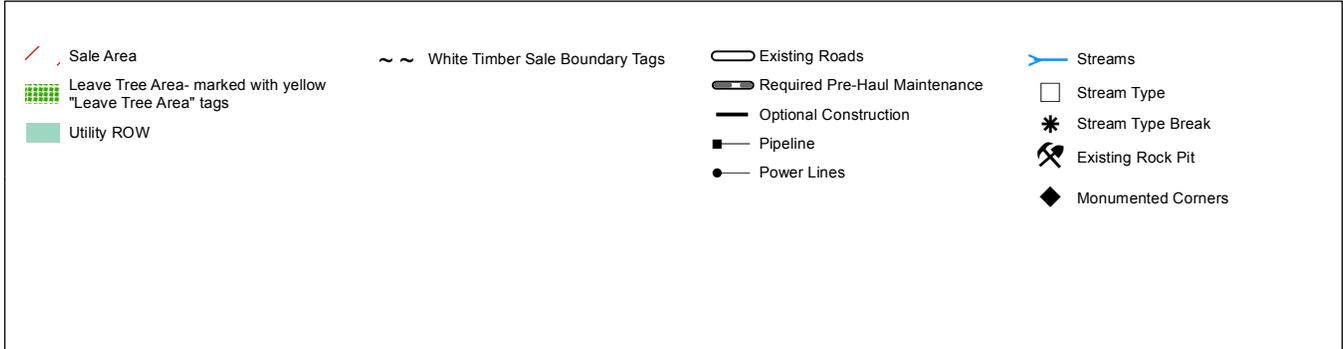
TIMBER SALE MAP

SALE NAME: LOLLYPOP
AGREEMENT #: 93477
TOWNSHIP(S): T18R04W, T18R03W
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REGION: South Puget Sound Region
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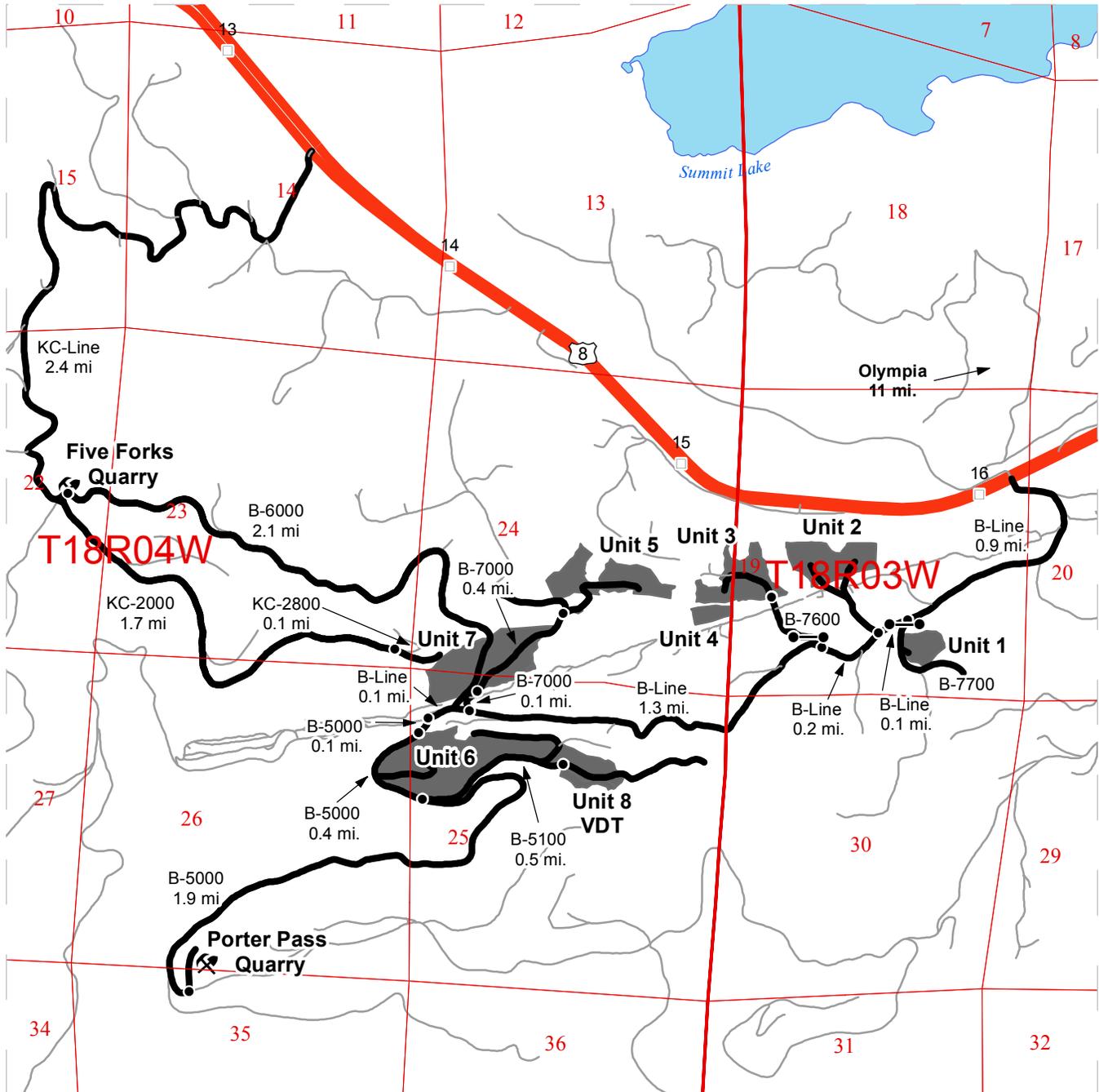
All State Unless Otherwise Noted



DRIVING MAP

SALE NAME: LOLLYPOP
 AGREEMENT#: 93477
 TOWNSHIP(S): T18R04W, T18R03W
 TRUST(S): State Forest Transfer(1), State Forest Purchase(2), Common School and Indemnity(3), Forest Board Repayment(42)

REGION: South Puget Sound Region
 COUNTY(S): THURSTON
 ELEVATION RGE: 567-1355



- Timber Sale Unit
- Highways
- Haul Route
- Other Route
- Milepost Markers
- Existing Rock Pit
- Distance Indicator
- Gate (Master Lock 957)

From State Route 8 (milepost 16), turn south onto Rock Candy Mountain Rd entrance and follow the B-Line for 0.9 miles.

Unit 1- Turn onto the B-7700. Unit 1 is 300 feet past the gate (currently not driveable).

Unit 2,11- Drive 0.1 miles to the ROW flagging for Unit 11. Unit 2 is a 0.3 mile walk in.

Unit 3, 4, 10- Continue 0.2 miles, and turn right (north) onto the B-7600. Unit 10 starts after the gate. Continue 0.3 miles on B-7600 to Unit 3 & 4.

Unit 7,5,9- Continue on B-Line for 1.3 miles. Turn right (north) onto B-7000 for 0.1 miles to Unit 7. Continue 0.4 miles to Unit 9 & 5.

Unit 6- Continue on the B-Line for 0.1 miles. Turn left (south) onto the B-5000 for 0.1 miles to Unit 6. Continue on the B-5000 for 0.4 miles and veer left to the B-5100. Continue on the B-5100 for 0.5 miles to Unit 8.

Porter Pass Quarry- From Unit 6, continue on the B-5000 for 1.9 miles. Turn left (north) onto the B-5300.

Five Forks Quarry- From the B-Line/B-7000 intersection, continue 250 feet and turn right (north) onto the B-6000. Continue 2.1 miles to Five Forks Quarry.

