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: **ODE TO JOYCE**
   Agreement # **30-100666**

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

3. Address and phone number of applicant and contact person:
   
   **Cody Pagel**
   **Department of Natural Resources**
   **411 Tillicum Lane**
   **Forks, WA 98331**
   **360-374-2800**

4. Date checklist prepared: **11/16/2020**

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

6. Proposed timing or schedule (including phasing, if applicable):
   
   a. **Auction Date:**
      **05/26/2021**
   
   b. **Planned contract end date (but may be extended):**
      **10/31/2022**
   
   c. **Phasing:**
      None

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
   
   ☒ Yes, identify any plans under A-7-a through A-7-d:

   a. **Site Preparation:** For units 1-4, assessment for treatment will occur after completion of harvest. Site preparation including chemical herbicide application may be used to ensure that planting successfully meets or exceeds Forest Practice standards.

   b. **Regeneration Method:** Units 1-4 will be hand planted with native conifer species following harvest.

   c. **Vegetation Management:** A continued assessment of the units will be required to determine future vegetation management strategy. Treatments will be based on vegetative competition and will ensure a free-to-grow status that complies with Forest Practice standards.

   d. **Other:** Biomass not removed during harvest may be piled near roads and landings. After the project is complete, any remaining piles may be offered for public firewood cutting, burned, or
sold. Road maintenance assessments will be conducted and may include periodic ditch and culvert cleanout, and grading as necessary.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. Note: All documents are available upon request at the DNR Region Office.

- ☒ 303 (d) – listed water body in WAU: Salt Creek
  - ☒ temp
  - ☐ sediment
  - ☐ completed TMDL (total maximum daily load)

- □ Landscape plan:
- □ Watershed analysis:
- □ Interdisciplinary team (ID Team) report:
- ☒ Road design plan: Ode to Joyce Timber Sale Road Plan 10/31/2020
- □ Wildlife report:
- □ Geotechnical report:
- □ Other specialist report(s):
- □ Memorandum of understanding (sportsmen’s groups, neighborhood associations, tribes, etc.):
- ☒ Rock pit plan: Striped Pit, Place Pit
- ☒ Other: Geologist Field Memo, Biologist Field Memo

Referenced documents may be obtained at the region office responsible for this proposal.

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 # _______
- ☒ FPHP
- ☒ Board of Natural Resources Approval
- □ Burning permit
- □ Shoreline permit
- □ 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.)

The Ode to Joyce timber sale is located approximately 13 miles west of Port Angeles off Joyce Access Rd (PA-J-1000). It is a 4-unit proposal with an associated right-of-way located in the Salt Creek WAU. It encompasses approximately 211 gross acres with a cruised sale volume of 6,240 mbf. This proposal consists of four variable retention harvest (VRH) units and one right-of-way unit. Within the proposal area, there are 17 acres of Riparian Management Zones, 51 acres Wetland Management Zones, 2 acres of unstable slopes. There are approximately 12 acres of Leave Tree Areas (LTAs), and 2 acres of existing roads. The net harvest acreage is 127 acres. Approximately 4,710 feet of new road construction, 4,645 feet of reconstruction, and 32,740 feet of pre-haul maintenance are proposed to meet access needs into the sale area. The designated rock source will
be Striped Pit. All riparian management zones, wetland management zones and unstable slopes have been excluded from harvest.

a. Complete proposal description:

<table>
<thead>
<tr>
<th>Unit</th>
<th>Proposal Acres (gross)</th>
<th>RMZ/WMZ Acres</th>
<th>Potentially Unstable Slope Acres</th>
<th>Existing Road Acres (within unit)</th>
<th>Leave Tree Clump Acres</th>
<th>Net Harvest Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>99.5</td>
<td>40</td>
<td>0</td>
<td>1.5</td>
<td>4</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>54</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>4</td>
<td>31.5</td>
<td>0</td>
<td>1</td>
<td>0.5</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>5 (ROW)</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>211</td>
<td>68</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>127</td>
</tr>
</tbody>
</table>

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

**Pre-harvest Stand Description:**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Origin Date</th>
<th>Major Timber Species</th>
<th>Type of Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1922</td>
<td>Douglas fir, western red cedar</td>
<td>variable retention harvest</td>
</tr>
<tr>
<td>2</td>
<td>1921</td>
<td>Douglas fir, western red cedar</td>
<td>variable retention harvest</td>
</tr>
<tr>
<td>3</td>
<td>1916</td>
<td>Douglas fir, western red cedar</td>
<td>variable retention harvest</td>
</tr>
<tr>
<td>4</td>
<td>1891</td>
<td>Douglas fir, western red cedar, hemlock</td>
<td>variable retention harvest</td>
</tr>
<tr>
<td>5 (ROW)</td>
<td>1921</td>
<td>Douglas fir</td>
<td>right-of-way</td>
</tr>
</tbody>
</table>

**Type of Harvest:**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Harvest Type (VDT/VRH/etc)</th>
<th>Volume to be Harvested (mbf)</th>
<th>Volume to be Harvested (%)</th>
<th>Individual Leave Trees</th>
<th>Clumped Leave Trees</th>
<th>Total Leave Trees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VRH</td>
<td>3,122</td>
<td>95</td>
<td>42</td>
<td>398</td>
<td>440</td>
</tr>
<tr>
<td>2</td>
<td>VRH</td>
<td>588</td>
<td>95</td>
<td>23</td>
<td>65</td>
<td>88</td>
</tr>
<tr>
<td>3</td>
<td>VRH</td>
<td>1,628</td>
<td>95</td>
<td>30</td>
<td>226</td>
<td>256</td>
</tr>
<tr>
<td>4</td>
<td>VRH</td>
<td>788</td>
<td>95</td>
<td>60</td>
<td>164</td>
<td>224</td>
</tr>
<tr>
<td>5</td>
<td>ROW</td>
<td>114</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Overall Unit Objectives:**

The overall objectives for this sale includes the production of saw logs and pulp material to generate revenue for trusts while expediting the development of a more diverse multi-storied canopy layer in the future stand. This will be accomplished through the leave tree retention
strategy and riparian management zones. These stands will be managed to protect site productivity and maintain the integrity and water quality of adjacent streams.

Ecological- Promote diverse forest structure across the landscape while preserving ecological integrity and function.

Economic- Generate revenue for the State trust beneficiaries.

Statute- Comply with the DNR’s HCP, the Policy for Sustainable Forests, and Forest Practice Rules and Regulations.

Social- Accommodate dispersed informal recreational activities on DNR managed lands and identify and protect historical and archaeological sites consistent with state/federal law.

c. Describe planned road activity. Include information on any rock pits that will be used in this proposal. See associated forest practice application (FPA) for maps and more details.

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>How Many</th>
<th>Length (feet) (Estimated)</th>
<th>Acres (Estimated)</th>
<th>Fish Barrier Removals (#)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td></td>
<td>4,710</td>
<td>4.3</td>
<td>0</td>
</tr>
<tr>
<td>Reconstruction</td>
<td></td>
<td>4,645</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td>32,740</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Abandonment</td>
<td></td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Bridge Install/Replace</td>
<td>1</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Stream Culvert Install/Replace (fish)</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Stream Culvert Install/Replace (no fish)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-Drain Install/Replace</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The designated rock source will be Striped Pit, Place Pit or commercial source.

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 “WAU Map(s)” and “Timber Harvest Unit Adjacency Map(s)” as referenced on the DNR website: http://www.dnr.wa.gov/sepa

Legal description: T30-0N R8-0W S05
T30-0N R8-0W S06
T30-0N R8-0W S07
T30-0N R8-0W S08
T31-0N R8-0W S31
T31-0N R8-0W S27 (Striped Pit)
T31-0N R7-0W S33 (Place Pit)

a.  b. Distance and direction from nearest town:
1 mile south of Joyce, WA

13. Cumulative Effects

a. Briefly describe any known environmental concerns that exist regarding elements of the environment in the associated WAU(s). (See WAC 197-11-444 for what is considered an element of the environment).

The Salt Creek WAU contains 1 northern spotted owl nest site and at least 6 sites occupied by the marbled murrelet. The upland portion of this WAU is dominated by conifer forests many of which are managed for timber production. Ownership is comprised of family forests, industrial private forests, federal government as well as the DNR. Forests are generally 2nd and 3rd growth stands with some 1st growth on federal land. The number of forest practice activities shown on the WAU maps along with observations within the WAUs indicate that the area is intensively managed for timber.

b. Briefly describe existing plans and programs (i.e. the HCP, DNR landscape plans, retention tree plans) and current forest practice rules that provide/require mitigation to protect against potential impacts to environmental concerns listed in question A-13-a.

This proposal and all future management activities on DNR lands will be conducted in accordance with the DNR’s Habitat Conservation Plan (HCP, 1997), the Policy for Sustainable Forests (2006), and Forest Practice Rules. The HCP is an agreement with the federal government that requires the DNR to manage the landscapes with the intent to preserve and enhance habitat. In accordance with its terms, the following applicable strategies are found to provide a conservation benefit for multiple species:

- Deferring harvest from unstable slopes
- Retaining Riparian Management Zones (RMZs) on typed waters. This includes a variable width interior core buffer on type 1, 2, 3, 4, unstable type 5 streams. Equipment limitation zones are required on all streams
- Retaining a minimum of 8 leave tree per acre dispersed and clumped throughout VRH units
- Designing, constructing, and maintaining a road system to minimize potential adverse effects on the environment
- Implementing procedures pertaining to threatened and endangered species

The HCP strategies for Northern Spotted Owl, Marbled Murrelet, and riparian conservation will contribute to the retention and development of older forests, while the leave tree procedure will enhance the structural diversity of forests across the landscape. In addition, road construction and maintenance standards will improve the quality of the existing road network and reduce impacts on the environment.

c. Briefly describe any specific mitigation measures proposed, in addition to the mitigation provided by plans and programs listed under question A-13-b.

All mitigation measures are clearly outlined in the HCP. No additional mitigation measures have been developed for this proposal.

d. Based on the answers in questions A-13-a through A-13-c, is it likely potential impacts from this proposal could contribute to any environmental concerns listed in question A-13-a?
It is not likely potential impacts from this proposal will contribute to the environmental concerns listed in question A-13-a. DNR’s HCP, the Policy for Sustainable Forests, and the Forest Practice rules substantially help the Department to mitigate for cumulative effects related to management activities. These strategies have been incorporated in this proposal.

e. Complete the table below with the reasonably foreseeable future activities within the associated WAU(s) (add more lines as needed). Future is generally defined as occurring within the next 7 years. This data was obtained from DNR’s Land Resource Manager System on the date of processing this checklist and may be subject to change.

<table>
<thead>
<tr>
<th>WAU Name</th>
<th>Total WAU Acres</th>
<th>DNR-managed WAU Acres</th>
<th>Acres of DNR proposed even-aged harvest in the future</th>
<th>Acres of DNR proposed uneven-aged harvest in the future</th>
<th>Acres of proposed harvest on non-DNR-managed lands currently under active FP permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALT CREEK</td>
<td>70619</td>
<td>12498</td>
<td>1183</td>
<td>941</td>
<td>570</td>
</tr>
</tbody>
</table>

Other management activities, such as stand and road maintenance, will likely occur within the associated WAU(s).

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 associated WAU(s) or sub-basin(s) within the proposal (landforms, climate, elevations, and forest vegetation zone).

         WAU: SALT CREEK
         WAU Acres: 70619
         Elevation Range: 0 - 2513 ft.
         Mean Elevation: 255 ft.
         Average Precipitation: 42 in./year
         Primary Forest Vegetation Zone: Western Hemlock

      2. Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).
         This proposal is a representative example of the WAUs at the same elevation and aspect.

   b. What is the steepest slope on the site (approximate percent slope)? 85%
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 an overview of general soils information for the soils found in the sale area. The actual soil conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors.

<table>
<thead>
<tr>
<th>State Soil Survey #</th>
<th>Soil Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>7234</td>
<td>LOAM</td>
</tr>
<tr>
<td>7232</td>
<td>LOAM</td>
</tr>
<tr>
<td>8047</td>
<td>V.GRAVELLY SANDY LOAM</td>
</tr>
<tr>
<td>8048</td>
<td>V.GRAVELLY SANDY LOAM</td>
</tr>
</tbody>
</table>

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

☐ No, go to question B-1-e.
☒ Yes, briefly describe potentially unstable slopes or landforms in or around the area of the proposal site. For further information, see question A-8 for related slope stability documents and question A-10 for the FPA number(s) associated with this proposal.

Unstable features in around this sale include toes of deep-seated landslide, shallow landslides and inner gorges.

1) Does the proposal include any management activities proposed on potentially unstable slopes or landforms?

☒ No ☐ Yes, describe the proposed activities:

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

Inner gorges, shallow slides, and toes of deep-seated slides greater than 65% have been excluded from the sale area.

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

Approx. acreage new roads: **4.3 acres**
Approx. acreage new landings: **0.2 acres**
Fill Source: Striped Pit, Place Pit or commercial sources

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):*
   Approximately 2% of the site will remain as gravel roads.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)*
   The hauling of forest products will not be permitted on state roads from November 1st to April 30th unless authorized in writing by the Contract Administrator. Harvesting and road construction will be restricted during periods of heavy rainfall when rutting and surface erosion may occur. Roads will be constructed with properly located ditches, ditch-outs and cross-drains to divert water onto stable forest floor and/or into stable natural drainages. Ground based operations will be suspended during periods of wet weather or wet soil conditions when rutting of skid or shovel roads begins.

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 during proposed activities. 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 “WAU Map(s)” and “Timber Harvest Unit Adjacency Map(s)” as referenced on the DNR website: http://www.dnr.wa.gov/sepa. Click on the DNR region of this proposal under the Topic “Current SEPA Project Actions - Timber Sales.” Proposal documents also available for review at the DNR Region Office.)*
      ☐ No  ☑ Yes, describe in 3-a-1-a through 3-a-1-c below
**a. Downstream water bodies:**
Streams in proximity to the sale area are unnamed tributaries to Salt Creek and Whiskey Creek, both of which drain to the Strait of Juan de Fuca.

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

<table>
<thead>
<tr>
<th>Wetland, Stream, Lake, Pond, or Saltwater Name (if any)</th>
<th>Water Type</th>
<th>Number</th>
<th>Avg RMZ/WMZ Width in feet (per side for streams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>stream</td>
<td>3</td>
<td>2</td>
<td>172</td>
</tr>
<tr>
<td>stream</td>
<td>4</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>stream</td>
<td>5</td>
<td>5</td>
<td>30’ equipment limitation</td>
</tr>
<tr>
<td>wetland</td>
<td>&gt;1 acre</td>
<td>3</td>
<td>172</td>
</tr>
<tr>
<td>wetland</td>
<td>&lt;1 acre &gt; .25 acre</td>
<td>4</td>
<td>100</td>
</tr>
</tbody>
</table>

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

There are two type-3 streams associated with this proposal. These streams are protected with a 172-foot full site index buffer based on the Douglas-fir site potential height at age 100.

There are five type-4 streams associated with this project. They are protected with a 100-foot no-harvest buffer.

There are five type-5 streams associated with this project. They are protected with leave tree areas, associated wetland buffers, or a 30-foot equipment limitation zone.

There are three wetlands greater than one acre in size associated with this proposal. They are protected with 172-foot full site index buffer based on the Douglas-fir site potential height at age 100. Right-of-way clearing for reconstruction/extension of PA-J-1025 will infringe upon the WMZ associated with the wetland complex between units 1 & 2. As mitigation for the infringement, the buffer was widened along its southern edge. There will be no loss of function to the WMZ.

There are four wetlands less than one acre and greater than one-quarter acre associated with this proposal. They are protected with 100-foot no harvest buffer.

The work detailed in the road plan has been designed to improve surfacing on the haul roads, and provide for better drainage by installing additional culverts and replacing culverts that will divert storm water onto stable forest floor. These actions will minimize the potential for delivery of sediment to streams. Soils exposed during road construction and re-construction activities will be protected from erosion by grass seeding, mulching with hay, and seasonal restrictions.

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 maps which are available on the DNR website: [http://www.dnr.wa.gov/sepa](http://www.dnr.wa.gov/sepa). Timber sale maps are also available at the DNR region office.)

**Description (include culverts):** Timber felling, bucking, yarding, and road maintenance and construction will occur within 200 feet of all the described waters above. All activities will be done in accordance with the DNR’s HCP and Forest Practice rules. Timber harvest will occur within 200’ of typed waters, but no closer than described above in questions B.3.a.1.b and B.3.a.1.c. Culvert work listed in A.11.C will occur within 200 feet of the described waters above.

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. 

**None.**

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 activity and 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.

**It is not likely that any waste materials will be discharged into the surface water(s). However, minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the adjacent surface water(s) as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.**

7) **Is there a potential for eroded material to enter surface water as a result of the proposal considering the protection measures incorporated into the proposal’s design?**

☐ No
☒ Yes, describe:

Soils and terrain susceptible to surface erosion are generally located on slopes steeper than 70%. The potential for eroded material to enter surface water is minimized due to the erosion control measures and operational procedures outlined in B-1-h.

8) **What are the approximate road miles per square mile in the associated WAU(s)?**

**SALT CREEK = 2.1 (mi./sq. mi.)**

9) **Are there forest roads or ditches within the associated WAU(s) that deliver surface water**
to streams, rather than back to the forest floor?

☐ No ☒ Yes, describe:
It is likely some roads or road ditches within the WAU intercept sub-surface flow and deliver surface water to streams, however current road construction, reconstruction, and/or maintenance standards will be applied that address this issue by installing cross-drains to deliver ditch water to stable forest floors.

10) Is there evidence of changes to channels associated with peak flows in the proposal area (accelerated aggradations, surface erosion, mass wasting, decrease in large organic debris (LOD), change in channel dimensions)?

☐ No ☒ Yes, describe observations:
There is evidence of changes to channels across the WAU. These changes are a result of natural events such as spring runoff from snowmelt and significant storm events. Channel migration, scouring, and deposition of material can be seen in channels across the WAU; this indicates those channels historically experience higher water levels and peak flows.

11) Describe any anticipated contributions to peak flows resulting from this proposal’s activities which could impact areas downstream or downslope of the proposal area.
It is not likely the proposed activity will change the timing, duration, or volume of water during a peak flow event. This proposal limits harvest unit size and proximity to other recent harvests, minimizes the extent of the road network, incorporates road drainage disconnected from stream networks, and implements wide riparian buffers which all have mitigating effects on the potential for this proposal to increase peak flows that could impact areas downstream or downslope of the proposal area.

12) Is there a water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity?

☒ No ☐ Yes, describe the water resource(s):

a. Is it likely a water resource or an area of slope instability listed in B-3-12 (above) will be affected by changes in amounts, quality or movements of surface water as a result of this proposal?

☒ No ☐ Yes, describe possible impacts:

13) Describe any protection measures, in addition to those required by other existing plans and programs (i.e. the HCP, DNR landscape plans) and current forest practice rules included in this proposal that mitigate potential negative effects on water quality and peak flow impacts.
Restricting timber harvest and road maintenance activities during peak rain events will allow for increased resource protection. Road development and maintenance standards will minimize impacts by using cross-drains and ditch-outs to release ditch
water onto stable forest floors where flow energy can dissipate prior to reach stream channels. Maintaining RMZ’s on streams will aid bank stability, hydrologic functions, and provide recruitment of LWD. See B.1.d.2, B.1.h, and B.3.a.1 for additional details on protections measures within this proposal.

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 water will be withdrawn or discharged.

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 downslope of the proposed activity?

☒ No ☐ Yes, describe:

a. Is it likely a water resource or an area of slope instability listed in B-3-b-3 (above) could be affected by changes in amounts, timing, or movements of groundwater as a result this proposal?

☒ No ☐ Yes, describe possible impacts:

Note protection measures, if any:

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.

Water runoff, including storm water, from road surfaces will be collected by roadside ditches and diverted onto the forest floor via ditch-outs and cross drain culverts.

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

☐ No ☒ Yes, describe:
Waste materials, such as sediment or slash, may enter surface water.

*Note protection measures, if any:*  
No additional protection measures will be necessary to protect these resources beyond those described in B-1-d-2, B-1-h, B-3-a-2, and B-3-a-13.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.  
No 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-13, B-3-b-3, and B-3-c-2.

4. Plants  
a. Check the types of vegetation found on the site:
   - Deciduous tree:
   - ☒ Alder □ Aspen □ Birch □ Cottonwood ☒ Maple □ Western Larch
   - ☒ Other: cherry
   - Evergreen tree:
   - ☒ Douglas-Fir □ Engelmann Spruce ☒ Grand Fir □ Lodgepole Pine
   - □ Mountain Hemlock □ Noble Fir □ Pacific Silver Fir □ Ponderosa Pine
   - ☒ Sitka Spruce ☒ Western Hemlock ☑ Western Redcedar □ Yellow Cedar
   - □ Other:
   - ☒ Shrubs:
   - □ Huckleberry □ Rhododendron ☒ Salmonberry ☒ Salal
   - □ Other:
   - ☒ Ferns
   - □ Grass
   - □ Pasture
   - □ Crop or Grain
   - □ Orchards □ Vineyard □ Other Permanent Crops
   - Wet Soil Plants:
   - □ Bullrush □ Buttercup □ Cattail ☒ Devil’s Club ☒ Skunk Cabbage
   - □ Other:
   - □ Water plants:
   - □ Eelgrass □ Milfoil □ Water Lily
   - □ Other:
   - □ Other types of vegetation:
   - □ Plant communities of concern:
b. What kind and amount of vegetation will be removed or altered? (Also see answers to questions A-11-a, A-11-b and B-3-a-2).

Approximately 6,240 MBF of timber will be harvested with this proposal.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See “WAU Map(s)” and “Timber Harvest Unit Adjacency Map(s)” on the DNR website: http://www.dnr.wa.gov/sepa. Click on the DNR region of this proposal under the Topic “Current SEPA Project Actions - Timber Sales.” Proposal documents also available for review at the DNR Region Office.)

Unit 1 is bordered by private land to the north, 36-year old state timber to the east, 30-year old state timber to the south and 100-year old state timber to the west.

Unit 2 is bordered by private timber to the north and west, and 100-year old state timber to the east and south.

Unit 3 is bordered by private timber to the north and east, 30-year old state timber to the south, and 36-year old state timber to the west.

Unit 4 is bordered by 30-year old state timber to the north and east, 37-year old state timber to the west, and 120-year old state timber to the south.

c. 

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

None found in corporate database

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

Retaining existing stands within bounded out areas throughout the proposal, leave tree areas within harvest units, and replanting with native conifer species in the VRH units following harvest. Other native conifer and deciduous species may regenerate naturally onsite.

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

Scotch broom, Himalayan blackberry, St. Johnswort

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:
  - ☐ eagle ☐ hawk ☐ heron ☐ owls ☒ songbirds
  - ☐ other:
  - mammals:
  - ☐ bear ☐ beaver ☐ coyote ☐ cougar ☒ deer ☒ elk
b. List any threatened and endangered species known to be on or near the site (include federal- and state-listed species).

<table>
<thead>
<tr>
<th>TSU Number</th>
<th>Common Name</th>
<th>Federal Listing Status</th>
<th>State Listing Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODE TO JOYCE U4</td>
<td>Northern Spotted Owl</td>
<td>Threatened</td>
<td>Endangered</td>
</tr>
<tr>
<td>ODE TO JOYCE U4</td>
<td>Marbled murrelet</td>
<td>Threatened</td>
<td>Endangered</td>
</tr>
</tbody>
</table>

c. Is the site part of a migration route? If so, explain.
   ☒Pacific flyway   ☐Other migration route:
   Explain:
   All of Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.
d. Proposed measures to preserve or enhance wildlife, if any:

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

Species /Habitat: **Wetland and Riparian**
Protection Measures: **Interior core buffers have been applied to all Type 3, 4 and unstable 5 waters, and Forested Wetlands, as well as equipment limitation zones on all typed waters and Forested wetlands, as described in B.3.a.1)b).** Buffers are designed to protect the unstable portions of the stream banks, protect waters and wetlands from siltation, and decrease water temperatures by providing shade and cover. Buffers also allow the natural occurrence of woody debris that provides pools and eddies for fish habitat along stream banks. Furthermore, these buffers will develop old-forest characteristics that, in combination with the owl and murrelet strategies, will help support old-forest dependent wildlife.

Species /Habitat: **Upland**
Protection Measures: **Harvest will not occur in areas with moderate or high risk of slope failure or delivery to a public resource. Wind-firm, dominant, and structurally unique trees were targeted for retention. A minimum of eight trees per acre were retained individually and in clumps to provide habitat structures for wildlife species within VRH units. Timber removal will temporarily create open environments that provide valuable foraging and potential habitat for a variety of wildlife species associated with early-stage forest environments.**

Species /Habitat: **Marbled Murrelet**
Protection Measures: **The proposal does not occur within marbled murrelet special habitat areas, occupied sites, occupied site buffers, or marbled murrelet**
habitat (P-stage) that has been designated for metering. Previously modeled long term forest cover (LTFC) is being updated as a result of field verification and no harvest will occur within verified LTFC. In guidance with our habitat conservation plan, no special murrelet protections are needed.

Species /Habitat: Northern Spotted Owl Protection Measures: Harvest units fall within Salt Creek and Whiskey Creek status one owl circles. No activity will occur in Spotted owl best 70 acres.

e. List any invasive animal species known to be on or near the site.
   None known.

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, timber harvest operations, and for transportation. No energy sources will be needed following project completion.

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.

   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-based fuel and lubricants may be used and stored on site during the operating life of this project.
4) Describe special emergency services that might be required.

The Department of Natural Resources, private, and fire protection district suppression crews may be needed in case of wildfire. In the event of personal injuries, emergency medical services may be required. Hazardous material spills may require Department of Ecology and/or county assistance.

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

No petroleum-based products will be disposed of on site. If a spill occurs, containment and cleanup will be required. Spill kits are required to be on site during all heavy equipment operations. The cessation of operations may occur during periods of increased fire risk. Fire tools and equipment, including pump trucks and/or pump trailers, will be required on site during fire season.

NOTE: If contamination of the environment is suspected, the proponent must contact the Department of Ecology.

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.

There will be short term, low level and high level noise created by the use of harvesting equipment and hauling operations within the proposal area. This type of noise has been historically present in this geographical area.

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.)

This proposal will not change the use of or affect the current/long term land use of areas associated with this 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:
   No.

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?
   commercial forest

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

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:
   Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
   This project is consistent with current comprehensive plans and zoning classifications.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
   None.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
   Does not apply.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
   Does not apply.
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?
      Does not apply.

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

      1) Is this proposal visible from a residential area, town, city, recreation site, major
         transportation route or designated scenic corridor (e.g., county road, state or
         interstate highway, US route, river or Columbia Gorge SMA)?

         ☒ Yes, name of the location, transportation route or scenic corridor:
         Town of Joyce, WA and the State Hwy 112.

      2) How will this proposal affect any views described above?
         Portions of timber harvest and road construction will be visible to these areas.
         There will a slight increase of traffic from these activities on the county roads
         used for hauling.

         Proposed measures to reduce or control aesthetic impacts, if any:
         The VRH portions of the timber sale will be replanted with native species following
         harvest. Leave trees will provide visual breaks and distribution of harvest units within the
         landscape will reduce the aesthetic impact of the view shed.

11. Light and glare

   a. What type of light or glare will the proposal produce? What time of day would it mainly
      occur?
      None.

   b. Could light or glare from the finished project be a safety hazard or interfere with views?
      No.

   c. What existing off-site sources of light or glare may affect your proposal?
      None.

   d. Proposed measures to reduce or control light and glare impacts, if any:
      None.

12. Recreation

   a. What designated and informal recreational opportunities are in the immediate vicinity?
      The Olympic Discovery Trail (ODT) Adventure Route

   b. Would the proposed project displace any existing recreational uses? If so, describe.
Yes, the ODT goes directly through Unit 1 and along a portion of the PA-J-1200 which will be used for haul. Use will not be available during the operational period of this sale.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: **Impacts will be controlled by temporarily closing or re-routing the affected portions of the trail during times of sale activity. Additional measures will include posting signs notifying users of the ongoing timber sale activities including cutting, yarding and hauling.**

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? If so, specifically describe.

Yes, the sale has been designed to avoid impacts to any cultural or historically significant resources.

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.

Yes. A State Lands Cultural Resource Technician and Archaeologist have both been consulted. Additionally, the Elwha Tribe was also contacted.

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 Land Resource Manager (LRM) Special Concerns Report and historical map data were used to identify known and potential cultural resources in the proposed project area. Field review was done by field staff and a Cultural Resource Technician. Additionally, a State Lands Archaeologist was also consulted as well as the Elwha tribe.

c. 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.

If a presently-unknown cultural resource is discovered during project operations, DNR will comply with the March 2010 Cultural Resources Inadvertent Discovery Guidance.

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.

**Joyce-Piedmont Rd and State Hwy 112**

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?

Yes. Clallam County bus system has a stop at the corner of Hwy 112 and Joyce-Piedmont Rd, along the haul route.

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.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area and any existing safety problem(s), if at all?
   This project will have minimal to no additional impacts on the overall transportation system 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 non-passenger vehicles). What data or transportation models were used to make these estimates?
   Approximately 10 to 15 truck trips per day while the operation is active. Peak volumes would occur during the yarding and loading activities between 4:00 a.m. and 4:00 p.m. of the operating period. The completed project will generate less than one vehicular trip per day. Estimates are based on the observed harvest traffic of past projects.

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:
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:  

Name of signee ____________

Position and Agency/Organization ____________

Date Submitted: ____________
**Driving Directions:**

**Unit 1:** From the town of Joyce, head west on State Highway 112 for 0.6 miles. Turn left onto Joyce-Piedmont and continue for 500 ft.
- Turn left onto Joyce-Access Rd (PA-J-1000) and continue for 0.7 miles and Unit 1 will be on your right.
- Continue on foot from Unit 1 along the existing grade and right-of-way to Unit 2

**Unit 2:** Continue on foot from Unit 1 along the Joyce Access Rd and Unit 3 will be on your left.

**Unit 3:** From Unit 1 continue 1.2 miles along the Joyce Access Rd and Unit 3 will be on your left.
- Proceed through the locked gate (AA-1) and continue for 1.2 miles before arriving at Unit 4.

**Unit 4:** From Unit 1, continue 1.1 miles along Joyce Access Rd before taking a sharp right onto PA-J-1200.
- Proceed through the locked gate (AA-1) and continue for 1.2 miles before arriving at Unit 4.

**Striped Pit:** From the town of Joyce, head east on Hwy 112 for 2.9 miles. Turn left on Camp Hayden Rd and proceed for 2.5 miles before turning right onto PA-I-3000. Proceed through locked gate (AA-1), then continue for 2.2 miles before turning right onto PA-I-3040. Arrive at the pit in 0.2 miles.

**Place Pit:** From the town of Joyce, head east on Hwy for 7.9 miles. Turn left on Place Rd and proceed for 1.1 miles. Then turn left on PA-I-2600, proceed through locked gate (AA-1) and continue for 0.3 miles. Turn right on PA-I-2610 and continue for 0.1 miles before arriving at Place Pit.
TIMBER SALE MAP

SALE NAME: ODE TO JOYCE
AGREEMENT #: 30-100666
TOWNSHIP(S): T30R8W, T31R8W
TRUST(S): Common School and Indemnity (3), State Forest Transfer (1)

REGION: Olympic Region
COUNTRY(S): Clallam
ELEVATION RGE: 560-2080

T31R08W

31

BPA-3845
1+40 spur

Private

Unit 2
11 acres

Unit 5 (ROW)
2 acres

PA-J-1005
PA-J-1010
PA-J-1025

PA-J-1025.1

Unit 1
54 acres

32

T30R08W

6

All State Unless Otherwise Noted

Variable Retention Harvest
Leave Tree Area
Riparian Management Zone
Type-B Wetland
Wetland Management Zone
DNR Managed Lands
Public Land Survey Townships
Public Land Survey Sections

Existing Roads
Required Pre-Haul Maintenance
Required Construction
Optional Pre-Haul Maintenance
Optional Reconstruction
Optional Construction
Discovery Trail
Sale Boundary Tags
Leave Tree Tags
Right of Way Tags
Take / Way Tags
BPA Removal Trees
BPA Power Lines
Streams
Stream Type
Stream Type Break

Survey Monument
Gate
Bridge
Landing
Rock Pit

Prepared By: bsin490
Modification Date: bsin490 1/5/2021