

United States Government

Department of Energy
Bonneville Power Administration

memorandum

DATE: March 20, 2003

REPLY TO
ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS
(DOE/EIS-0285/SA-133 Hanford-Ostrander [Mile 126/1-146/4])

TO: Elizabeth Johnson
Natural Resource Specialist– TFR/The Dalles

Proposed Action: Vegetation Management for the Hanford-Ostrander Corridor from structure 126/1 through structure 146/4. Right of way width averages 312 feet.

Location: The project location is within Skamania County, Washington. The project commences to the west of the White Salmon River and proceeds in a westerly directly for approximately 20 miles.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to remove unwanted vegetation along the right-of-way, access roads, and around tower structures along the subject transmission line corridors. Approximately 20 miles of right-of-way will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Access roads and tower sites will be cleared using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Vegetation management is required for unimpeded operation and maintenance of the subject transmission line

Analysis: A checklist (see attached) was completed for this project by BPA's Regional Natural Resource Specialist in accordance to the requirements identified in the Bonneville Power Administrations Transmission System Vegetation Management Program FEIS (DOE/EIS-0285). Applicable findings and mitigation measures are discussed below.

Planning Steps:

1. Identify facility and the vegetation management need.

Unwanted vegetation along the right-of-way, access roads and around tower structures along the subject transmission line corridors will be removed. Approximately 20 miles of right-of-way will be treated using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Access roads and tower sites will be cleared using selective and non-selective methods that include hand cutting, mowing and herbicide treatments. Vegetation management is required for unimpeded operation and maintenance of the subject transmission line. See Section 1 of the attached checklist for a complete description of the proposal.

2. Identify surrounding land use and landowners/managers and any mitigation.

The subject corridor traverses private, State and Federal properties and is used primarily for recreation and timber production.

Landowners requiring notification are shown in Section 2.3 and 2.4 of the attached checklist. Any remaining landowners will be contacted (letters, personal contact, door hangers, etc.) by BPA before and during the project. Any input received will be incorporated into the prescription/cut sheets.

3. Identify natural resources and any mitigation.

Section 3 of the attached checklist identifies the natural resources present in the area of the proposed work. The following resources were identified, along with applicable mitigation measures:

Streams, Wetlands, and Sensitive Habitat:

Wetlands, perennial streams, creeks and intermittent creeks were identified throughout the project area. Buffers and mitigation measures have been identified for the proposed vegetation control actions. See Section 3.1 of the checklist for a complete listing of habitat types, locations, buffers and specific measures. If buffers are adhered to and measures are correctly implemented, there should be no effect to these habitats.

Irrigation Source, Wells, or Springs:

The following water sources have been identified. Based on the proposed measures, there should be no effect to these resources

Span		Well/irrigation/or spring	Herbicide	Buffer	Other notes and measures
From	To				
144/5	144/5 +150	Cistern – 50' SE of McN-R 137/5	Approved aquatic glyphosate formulation	Handcut. No herb. W/in 50' radius of site.	No machinery w/in 164' radius of site.
144/5 +800	144/5 +1150	Spring box – McN-R side of corridor	Approved aquatic glyphosate formulation	Handcut. No herb. W/in 164' radius of site.	No machinery w/in 164' radius of site.
146/3 +400		Spring – off to eastside of structure & row.	Approved aquatic glyphosate formulation	Handcut. No herb. W/in 164' radius of site.	No machinery w/in 164' radius of site.

Threatened and Endangered Species:

Spotted owl habitat has been identified in the area of Structure 134/5. As a mitigating factor, seasonal restrictions will be observed as identified in the attached checklist. Anadromous fish and bull trout are also known to be present within the project area. In these areas, no herbicides will be used within 400 feet on both sides of the creeks. No machinery will be allowed within 35 feet of the stream or on slopes ≥ 20 percent. Section 3.1 of the attached checklist identifies the specific locations of sensitive areas and provides the appropriate mitigation measures. Based on the proposed measures, there should be no effect to these resources.

No other known Threatened and Endangered Species or Essential Fish Habitat is present within the proposed project area.

Cultural Resources:

No known cultural resources are present in the proposed project area.

Steep/Unstable Slope:

Steep slopes occur within the project area although none have been identified as unstable. However, measures will be included in the contract to avoid erosion or unstable slopes. See Section 3.7 of the attached checklist for a full description of mitigation methods for steep slopes and potential erosion areas.

Spanned Canyons:

Spanned Canyons are identified in Section 3.8 of the attached checklist. Vegetation that is not anticipated to grow into transmission line safety zones will not be removed.

4. *Determine vegetation control and debris disposal methods.*

Vegetation will be removed using manual, mechanical, and chemical methods will be implemented on all lands except for USFS lands where herbicide application is not permitted. Full descriptions can be found in Section 4 of the attached checklists. Debris will be disposed onsite using either lop and scatter, or mulch techniques as described in Section 5 of the attached checklist.

5. *Determine revegetation methods, if necessary.*

No soil disturbance is expected; therefore it is not likely that reseeding or replanting will be necessary.

6. *Determine monitoring needs.*

The right of way will be visited in late summer to determine whether target vegetation was cut and treated effectively, whether desired results were achieved for riparian and non-riparian areas, and if mitigation measures were appropriately utilized and effective. A right of way management plan will be developed from this review and implemented next cutting cycle.

7. Prepare appropriate environmental documentation.

Findings: This Supplement Analysis finds that 1) the proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and; 2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. Therefore, no further NEPA documentation is required.

/s/ Frederick J. Walasavage
Frederick J. Walasavage
Environmental Protection Specialist

CONCUR /s/ Thomas C. McKinney
Thomas C. McKinney
NEPA Compliance Officer

DATE: 03/24/2003

Attachment

cc:

L. Croff – KEC-4
T. McKinney – KEC-4
C. Leiter – KEP-4
J. Meyer – KEP-4
P. Key – LC-7
D. Hollen – TF/DOB-1
R. Fouse – TFR/Redmond
R. Melzer – TFR/Redmond
W. Banker – TFRK/The Dalles
Environmental File – KEC-4
Official File – KEP-4 (EQ-14)

VEGETATION MANAGEMENT CHECKLIST

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Describe Right-of-way.

See Handbook — [List of Right-of-way Components](#) for checkboxes and the requirements for the components [Rights-of-way](#), [Access Roads](#), [Switch Platforms](#), [Danger Trees](#), and [Microwave Beam paths](#).

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Hanford-Ostrander 126/1-146/4	74 miles- 500kV	Majority – 312.5	20 Miles
	McNary-Ross-345kV	w/occasional	20 Miles
	Nbonn-Mid-230kV	varied widths	0
	Unwd Tap-115kV		0

Right-of-Way – clearing in right-of-way

Transmission Structures – clearing around

Access Road clearing - approximate miles – 20

Work shall commence April 2003 and completed by August 2003.

Rights-of-way Requirements:

Control all tall-growing species that are now or would be a hazard to the line.

Cut stumps are not to be taller than 4 – 6 in.

Control all tree and brush species within about 50 ft. of transmission structures. Cut stumps are not to be taller than 2 – 4 in.

Pull all debris and slash out of the 50-ft. area around transmission structures.

Access roads Requirements:

Control all vegetation except grasses, to enable safe driving.

The access road is to be 14’ wide with a 15-ft.- high clearance. Limbs should not hang down into the access road.

Cut stumps are not to be taller than 2 – 4 in. in the roadbed.

Cut stumps horizontal to the ground to prevent personal injuries and tire puncture.

Trim limbs back as flush to the trunk as possible when trees are rooted outside of the access road.

Pull all debris back from the access road as prescribed.

1.2 Describe the vegetation needing management.

See handbook — [List of Vegetation Types](#), [Density](#), [Noxious Weeds](#) for checkboxes and requirements.

Doug fir, wild cherry, alder, maple, cottonwood & willows – low to medium

Noxious weeds – Scotch Broom, knapweed, poison oak, blackberry, etc. Contractor is required to control noxious weeds on row, around structures and along access roads. Where applicable, noxious weeds will be treated with a foliar application of an approved herbicide and applied according to label requirements. Herbicide and surfactant/adjuvant will be approved by COTR prior to application. All buffers will be maintained according to buffer table in EIS. Skamania County Weed Dept. is very aggressive in managing noxious weeds but do not have crews or equipment to contract with. Therefore, vegetation mgmt & noxious weed control are done simultaneously w/brush contractors.

1.3 List measures you will take to help promote low-growing plant communities. If promoting low-growing plants is not appropriate for this project, explain why. See Handbook — for requirements and checkboxes.

Bonneville’s overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation. In some areas where the line is w/in 40’ or less distance to ground, this is not possible.

- Tall-growing vegetation that is currently or will soon be a hazard to the line will be removed.
- Cut-stump or follow-up herbicide treatments on resprouting-type species will be carried out to ensure that the roots are killed.
- Vegetation that will grow tall will be selectively eliminated *before* it reaches a height or density to begin competing with low-growing species.
- Desirable low-growing plants will not be disturbed. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

1.4 Describe overall management scheme/schedule.

See Handbook - [Overall Management Scheme/Schedule](#).

Initial entry – This project is a maintenance entry. Vegetation will be cut with chain saws/mowers w/ some herbicide treatment.

Subsequent entries – Every 4 yrs., the row will need to be manually/mechanically/chemically treated.

Future cycles - Same as subsequent entry.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

2.1 List the types of landowners and land uses along your corridor.

See Handbook — [Landowners/Managers/Uses](#) for requirements, and [List of Landowners/Managers/Uses](#) for a checkbox list.

- Residential
- Rural
- Agricultural
- Grazing lands
- Industrial Forest lands – Broughton/SDS/ Birkenfeld/Longview Fibre Timber Companies
- State Lands – Wa. State Department of Natural Resources
- Forest Service – Columbia Gorge National Scenic Area

2.2 Describe method for notifying right-of-way landowners and requesting information (i.e., doorhanger, letter, phone call, e-mail, and/or meeting). Develop landowner mail list, if appropriate.

See Handbook — [Methods for Notification and Requesting Information](#) for requirements.

Landowner letters will be sent out 3 weeks prior to commencement of operations. Other methods will include doorhangers, phone call, e-mail, and/or individual meetings to 1) notify landowners where Bonneville has a right-of-way easement to inform them of upcoming activities, 2) request any information that needs to be considered.

2.3 List the specific land owner/landuse measures — determined from the handbook or through your consultations with the entities — that will be applied.

See handbook — [Requirements and Guidance for Various Landowners/Uses](#) for requirements and guidance, also [Residential/Commercial](#), [Agricultural](#), [Tribal Reservations](#), [FS-managed lands](#), [BLM –managed lands](#), [Other federal lands](#), [State/ Local Lands](#).

Agricultural:

Prevent the spread of noxious weeds by cleaning seeds from equipment before entering cropland. If on grazing lands and there is potential for pine needle poisoning, do not lop and scatter pine tree vegetative debris—machine-chip or haul debris off-site.

If using herbicides on grazing lands, comply with grazing restrictions as required per herbicide label.

If using herbicides near crops for consumption, comply with pesticide-free buffer zones, if any, as per label instructions.

For rights-of-way adjacent to agricultural fields, observe appropriate buffer zones necessary to ensure that no drift will affect crops.

FS-managed Lands:

Reviewed existing site-specific vegetation management plans – DOE/EA-1162 Columbia River Gorge Vegetation Management Project, dated 9/96, for consistency with this EIS. All requirements/mitigations/recommendations are consistent with the EIS and will be implemented during this project.

State Lands – Have discussed the project with Jim Shank, DNR’s area timber manager, he verbally approved project plans on their land and requested a letter on dates of activity.

2.4 Review any existing landowner agreements (e.g. tree/brush Permits or Agreements). List in table above any provisions that need to be followed and where they are located.

See handbook — [Landowner Agreements](#) for requirements.

146/1-146/2+600 – Tree Permit – Jim Nelson (Case #19950374). Tree & brush permit.

Landowner responsible for managing veg & brush within this segment of row. Permittee will be notified of pending operations prior to commencement of work. This area will be skipped for the most part unless there are identified hazards that require treatment. COTR & contractor will work with permittee for resolution.

2.5 List any known casual informal use of the right-of-way by non-owner publics. List any constraints or measure's to take due to the informal use.

See handbook — [Casual Informal Use of Right-of-way](#) for requirements.

Hunters/recreationists may occasionally use the row. The planned entry is not expected to affect their use.

2.6 List other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with. Describe method of notification and coordination.

See handbook — [Other Potentially Affected Publics](#) for requirements and suggestions.

None identified.

3. IDENTIFY NATURAL RESOURCES

See Handbook — [Natural Resources](#)

3.1 List any water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body describe the control methods and requirements or mitigation measures that will be used.

See Handbook — [Water Resources](#) for requirements for working near water resources including buffer zones.

In riparian areas, use selective control methods and take care not to affect non-target vegetation.

Leave vegetation intact, where possible.

Reseed all soil disturbed sites within 400 feet of a stream.

Any discharge of material (displaced soils, and in certain circumstances, vegetation debris) within a water of the U.S. may be subject to U.S. Army Corps of Engineers regulations under the Clean Water Act.

Do not permit debris from tree falling, cutting, or disposal to fall into or be placed in any watercourse, spring, pond, lake, or reservoir, unless there is approval from the appropriate authorities for stream habitat projects.

Do not burn piled vegetative debris in or next to watercourses.

For all methods using machinery or vehicles (i.e. chainsaws, trucks, graders) keep the equipment in good operating condition to eliminate oil or fuel spills.

Do not wash equipment or vehicles at a stream.

Notify inspector and the State of any amount of herbicide spill in or near water.

Consider climate, geology, and soil types in selecting the herbicide/adjuvant with lowest relative risk of migrating to water resources.

Use herbicide-thickening agents (as appropriate), label instructions, and weather restrictions to reduce the drift hazard to water resources.

When using granular formulations, consider overall climate and daily weather in ensuring herbicides are not washed offsite.

Always use appropriate anti-siphon devices/methods when filling herbicide tanks from any water sources.

Before herbicide application, thoroughly review the right-of-way to identify and mark, if necessary, the buffer requirements of competing resources.

The buffers in tables III-1 and III-2 are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply. For noxious weed treatment, try to apply buffer zones, recognizing that treatment may be necessary within zones for control in compliance with local weed boards and Federal noxious weed laws.

Table III-1: Buffer Widths to Minimize Impacts on Non-target Resources

Herbicide & Adjuvant Ecological Toxicities and Characteristics	Buffer Width from Habitat Source per Application Method (i.e., stream, wetland, or sensitive habitat)				
	Spot	Localized	Broadcast ¹	Aerial ²	Mixing, Loading, Cleaning
Practically Non-Toxic to Slightly Toxic	Up to Edge ^{3,4}	Up to Edge ^{3,4}	10.7m ^{3,4} (35 ft.)	30.5m ⁴ (100 ft.)	30.5m ⁵ (100 ft.)
Moderately Toxic, or if Label Advisory for Ground/Surface Water	7.6m ^{3,4} (25 ft.)	10.7m ^{3,4} (35 ft.)	30.5m ^{3,4} (100 ft.)	76.2m ⁴ (250 ft.)	76.2m ⁵ (250 ft.)
Highly Toxic to Very Highly Toxic	10.7 m ^{3,4} (35 ft.)	30.5m ^{3,4} (100 ft.)	Noxious weed control only. Buffer as per local ordinance	Noxious weed control only. Buffer as per local ordinance	76.2m ⁵ (250 ft.)

The buffers in this table are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply.

See table 7a for general aquatic toxicities of and label advisories of the active ingredients.

1 Using ultra low volume (ULV) nozzles with orifice size and spray pressure set to produce droplets at a minimum of 150 microns, boom or nozzle heights at the lowest possible height, and cross-wind speed of less than 10 mph.³

2 Using ULV nozzles with orifice size and spray pressure set to produce droplets at a minimum of 150 microns, minimizing air shear relative to nozzle angle and aircraft speed, boom length at 70% or less of wingspan/rotor, swath adjustment not to exceed 60 feet based on maximum cross-wind speed of less than 10 mph, minimum safety clearance application height, and herbicide tank mixture dynamic surface tension is less than 50 dynes/cm.³

3 Goodrich-Mahoney, J.W., Determination of the Effectiveness of Herbicide Buffer Zones in Protecting Water Quality, Electric Power Research Institute, Report No. TR-113160, September 1999

4 Calculated from: A Summary of Ground Application Studies, Spray Drift Task Force, 1997

5 BPA Best Management Practice

Table III- 4: Mechanical Buffer Zones

Ground-disturbing Mechanical Methods	Buffer Width From Habitat Source, i.e., Stream or Wetland
Slopes under 20%	10.7 m (35 ft.)*
Slopes over 20%	No disturbance

The buffers in this table are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply.

*Natural Resources Conservation Service (NRCS), Conservation Practice Standard, Riparian Forest Buffer, Code 391A, 1997

Span		Waterbody	T&E?	Method	Herbicide	Application Technique	Buffer
From	To						
123/5 +400	123/5 +1200	Perennial stream & Little White Salmon River. Spanned Canyon.	Yes	Hand cut individual trees if w/in 50' of lines.	Approved aquatic glyphosate formulation outside buffers.	Cut stump/Spot spray	No herb. w/in 400' of streams – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
131/2+ 350	131/2 +450	Intermittent creek	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
131/3- 200	131/3 +200	Intermittent creek	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
131/2 +550	131/2 +650	Intermittent creek	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
132/1 +500	132/1 +600	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.

132/2 +500	132/2 +600	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
132/3 +650	132/3 +750	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
132/4+ 250	132/4 +1150	Perennial streams	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
133/3+ 150	133/3 +250	Perennial stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
133/6+ 200	134/1	Perennial stream – Rock Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
134/1+ 100	134/1 +100	Perennial stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
134/1+ 550	134/1 +650	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
134/3+ 100	134/3 +200	Intermittent stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.

135/1+ 250	135/1 +350	Intermittent stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
135/2+ 750	135/2 +850	Intermittent stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
135/4 +1300	135/4 +1400	Perennial stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
136/1+ 950	136/1 +1300	Perennial streams. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
136/2+ 1150	136/1 +1800	Perennial streams. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
137/1+ 800	137/1 +1500	Perennial streams. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
138/1+ 400	138/1 +1200	Little Wind River & intermittent stream. Spanned Canyon.	Yes	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation outside buffers.	Cut stump/Spot spray	No herb. w/in 400' of streams – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
138/1+ 1600	138/1 +1700	Intermittent stream. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.

139/1 - 300	139/1 +400	Perennial streams. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
139/2+ 450	139/2 +550	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
139/3+ 600	139/3 +900	Perennial stream – tributary to Brush Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
139/4+ 300	139/4 +1100	Brush Cr. Spanned Canyon.	Yes	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation outside buffers.	Cut stump/Spot spray	No herb. w/in 400' of streams – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
139/5+ 100	139/5 +600	Perennial streams – tributary to Brush Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
140/2+ 500	140/2 +1300	Wind River. Spanned Canyon.	Yes	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation outside buffers.	Cut stump/Spot spray	No herb. w/in 400' of stream – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
141/6+ 50	141/6 +700	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.
142/3+ 200	142/3 +300	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes $\geq 20\%$.

142/3+ 950	142/3 +1050	Carson Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
142/4+ 100	142/4 300	Perennial stream & wetlands	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 50' of stream wetland or on slopes ≥20%.
143/1- 450	413/1 -350	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
143/2 +400	143/3	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
143/3+ 200	143/4	Perennial & Intermittent Streams.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
143/4+ 350	143/4 +700	Perennial streams – Nelson Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
144/1- 500	144/1 -250	Perennial streams	No	Hand cut individual trees if w/in 50' of lines.	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
144/2+ 350	144/2 +850	Perennial streams – Nelson Cr. Spanned Canyon.	No	Hand cut individual trees if w/in 50' of line. Will use goats on broom.	None.		Landowner requests no herbicide on property. No machinery or goats w/in 35' of stream or on slopes ≥20%.

144/4+ 100	144/4 +400	Perennial stream & wetland	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
144/4+ 800	144/4 +900	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
144/5	144/5 +150	Cistern – 50' SE of Mc-R 137/5	No	Hand cut individual trees if w/in 164' radius of site.	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	No herb w/in 50' radius of site. Spot spray stumps outside 50' radius.
144/5+ 450	144/5 +550	Perennial stream	No	Hand cut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
144/5+ 800	144/5 +1150	Wetland & Spring box – McN-R side of corridor	No	Hand cut individual trees if w/in 164' radius of site	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	No herb w/in 164' radius of site. No machinery w/in 164' radius.
145/3+ 800	145/4	Perennial stream	No	Hand cut individual trees if w/in 50' of lines. Will use goats on broom	None.		Landowner requests no herbicide on property. No machinery or goats w/in 35' of stream or on slopes ≥20%.
145/4	145/4 +400	Perennial stream	No	Handcut individual trees if w/in 50' of lines. Will use goats on broom	None.		Landowner requests no herbicide on property. No machinery or goats w/in 35' of stream or on slopes ≥20%.
145/5+ 200	145/5 +900	Perennial stream	No	Handcut individual trees if w/in 50' of lines. Will use goats on broom	None.		Landowner requests no herbicide on property. No machinery or goats w/in 35' of stream or on slopes ≥20%.
146/2		Spring	No	Handcut individual trees if w/in 164' radius of site	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	No herb w/in 164' radius of site. No machinery w/in 164' radius.

146/2+850	146/2+950	Intermittent stream	No	Handcut individual trees if w/in 50' of lines	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	Spot spray stumps to mean high water mark – both sides. No machinery w/in 35' of stream or on slopes ≥20%.
146/3+400		Spring – off to eastside of row	No	Handcut individual trees if w/in 164' radius of site	Approved aquatic glyphosate formulation.	Cut stump/Spot spray	No herb w/in 164' radius of site. No machinery w/in 164' radius

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

See Handbook — [Herbicide Use Near Irrigation, Wells or Springs](#) for buffers and herbicide restrictions.

Span		Well/irrigation/or spring	Herbicide	Buffer	Other notes/measures
From	To				
144/5	144/5+150	Cistern – 50' SE of McN-R 137/5	Approved aquatic glyphosate formulation	Hand cut. No herb. W/in 50' radius of site.	No machinery w/in 164' radius of site.
144/5+800	144/5+1150	Spring box – McN-R side of corridor	Approved aquatic glyphosate formulation	Hand cut. No herb. W/in 164' radius of site.	No machinery w/in 164' radius of site.
146/3+400		Spring – off to eastside of structure & row.	Approved aquatic glyphosate formulation	Hand cut. No herb. W/in 164' radius of site.	No machinery w/in 164' radius of site.

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any BAs, T&E maps, or letters from US Fish and Wildlife.

See Handbook — [T&E Plant or Animal Species](#) for requirements and determining presence.

See Water Resources for identified/buffers/mitigation for T&E fish species. Due to the conductor height and span canyons where the T&E listed fish are located, the activity associated with this project shall have no impact on aquatic T&E.

Span		T&E Species	Method/mitigation or avoidance measures
From	To		
134/5+500	136/2 +2240	Spotted Owl Habitat Area #175	Observe seasonal restrictions. No work activity in this area until July 1

Where opportunity exists, suspend vegetation management activities within 0.4 km (0.25 mi.) of spotted owl critical habitat between March 1 and June 30, unless the owls are shown not to be nesting.

Examine any large trees (greater than 20.3 cm [8 in.] in diameter at breast height east of the Cascades, or 28 cm [11 in.] in diameter at breast height west of the Cascades) that need to be removed in spotted-owl habitat for evidence of owls. If a tree has evidence of owl nesting activity, conduct formal consultation with the USFWS.

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

See Handbook — [Protecting Other Species](#) for requirements.

None Identified.

3.5 List any visually sensitive areas and the measures to be taken at these areas.

See Handbook — [Visual Sensitive Areas](#) for requirements.

Within the Scenic Area, selective clearing techniques as well as promoting low growing plant communities will maintain the integrity of visually sensitive areas. No large-scale clearing or clear cuts will occur with this maintenance entry.

Span		Describe sensitivity	Method/mitigation measures
From	To		
130/5	131/2	Visually sensitive	Retain non-threatening vegetation between towers.
135/2	137/1	Visually sensitive	Retain non-threatening vegetation w/in 500' of creeks. Creeks within spanned canyons.
138/1	138/2	Visually sensitive	Retain non-threatening vegetation w/in 600' of Little Wind River. Little Wind River within spanned canyon.
138/4	138/5	Visually sensitive	Retain non-threatening vegetation along southern edge of row..
140/2	140/3	Visually sensitive	Retain non-threatening vegetation w/in 600' of Wind River. Wind River within spanned canyon.

3.6 List areas with cultural resources and the measures to be taken in those areas.

See Handbook – [Cultural Resources](#) for requirements.

Expectation of cultural resource occurrences for the project area is very low. The row does not traverse topographic features or natural environs known to be preferred localities for concentrated activities. (Pg. 22, Col. Gorge Veg. Mgmt. EA) If any sites were discovered, all work in the area would be halted in the area until identified and mitigated.

3.7 List areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

See Handbook – [Steep/Unstable Slopes](#) for requirements.

Steep slopes occur within the project area although none have been identified as unstable. The following requirements will be used in the contract to avoid erosion or unstable slopes.

Do not use ground (soil)-disturbing mechanical equipment to clear on slopes over 20%.

Avoid using granular or total vegetation management (non-selective) herbicides on slopes over 10%.

Do not use herbicides with a high potential for surface runoff.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

Reseed or replant seedlings on slopes with potential erosion problems and/or take other erosion control measures as necessary.

3.8 List areas of spanned canyons and the type of cutting needed.

See Handbook – [Spanned Canyons](#) for requirements.

Span		Method/mitigation measures
From	To	
126/1+100	126/1 +250	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
123/5+300	123/5 +550	Little White Salmon River. Sensitive stream. Clearance $\geq 90'$. Hand cut only individual trees w/in 50' of line. No herbicides w/in 100' both sides.
131/2+450	131/2 +600	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
133/2 +50	133/2 +160	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
133/3+50	133/1 +350	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
133/5+300	133/5 +650	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
133/6+50	133/6 +500	Hand cut only individual trees w/in 50' of line. Clearance $\geq 115'$. Stump treat w/approved aquatic formulation of glyphosate.
134/1+50	134/1 +300	Hand cut only individual trees w/in 50' of line. Clearance $\geq 90'$. Stump treat w/approved aquatic formulation of glyphosate.
134/3+50	134/3 +350	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
135/1+150	135/1 +600	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
135/2+250	135/2 +900	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
135/4+820	135/4 +1500	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
136/1+600	136/1 +1950	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.

136/2+1050	136/2 +2200	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
137/1+650	137/1 +1850	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
137/2+100	137/2 +900	Little Wind River. Sensitive stream. Clearance $\geq 120'$. Hand cut only individual trees w/in 50' of line. No herbicides w/in 100' both sides.
138/1-550	138/1	Cut only individual trees w/in 50' of treetop and line. Clearance $\geq 120'$. Stump treat w/approved herbicide.
138/1 +400	138/1 +1900	Cut only individual trees w/in 50' of treetop and line. Clearance $\geq 120'$. Stump treat w/approved herbicide.
138/5 +700	138/5 +1250	Cut only individual trees w/in 50' of treetop and line. Clearance $\geq 120'$. Stump treat w/approved herbicide.
139/1 +120	139/1 +500	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
139/3 +500	139/3 +950	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
139/4 +400	139/4 +900	Brush Creek. Sensitive stream. Clearance $\geq 120'$. Hand cut only individual trees w/in 50' of line. No herbicides w/in 100' both sides.
139/5 +50	139/5 +300	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
139/5 +500	139/5 +650	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
140/2 +200	140/2 +1700	Wind River. Sensitive stream. Clearance $\geq 120'$. Hand cut only individual trees w/in 50' of line. No herbicides w/in 100' both sides.
142/3 +850	142/3 +1150	Carson Cr. Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
143/4 +250	143/4 +500	Nelson Cr. Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
143/4 +600	143/4 +700	Hand cut only individual trees w/in 50' of line. Clearance $\geq 120'$. Stump treat w/approved aquatic formulation of glyphosate.
144/2 +250	144/2 +500	Cut only individual trees w/in 50' of treetop and line. No herbicide per request of landowner.

4. DETERMINE VEGETATION CONTROL METHODS

See Handbook — [Methods](#)

4.1 List Methods that will be used in areas not previously addressed in steps above.

See Handbook — [Manual](#), [Mechanical](#), [Biological](#), [Herbicides](#) for requirements for each of the methods.

Handcutting, mowing, herbicide treatment (cut stump/foliar), goats to be tried on both parcels owned by Ashe. See above for specific locations.

For all methods using machinery or vehicles (i.e. chainsaws, trucks, graders), keep the equipment in good operating condition to eliminate oil or fuel spills or excess exhaust.

Do not wash equipment or vehicles at a stream.

Manual Requirements

When crews are working during the fire season (defined by the fire protection district with jurisdiction in the area), each crew shall have the proper fire-suppression tools and materials, as required by the responsible fire control agency.

Equip power-cutting tools with approved spark arresters.

Cut conifers below the lowest live limb to eliminate the continued growth of lateral branches.

If planning follow-up herbicide stump treatment, cut stumps flat for application of the chemical.

If planning follow-up herbicide stump treatment in rights-of-way, cut deciduous brush about 15.2 cm to 20.3 cm (6 to 8 in.) above the ground line.

If planning follow-up herbicide stump treatment in access roads, cut deciduous stumps 5 to 10 cm (2 to 4 in.) above the ground line.

If planning follow-up herbicide stump treatment, apply herbicides as soon as possible after cutting. (If herbicide is not applied soon after the vegetation has been cut, it may be best to wait until resprouting has occurred and then spray by foliar technique.)

For safety, cut all brush stumps flat where possible. (Angular cuts leave a sharp point that could cause injuries if fallen upon.)

For cutting trees close to "live" power lines, use only qualified personnel.

Mechanical Requirements

Do not use ground-disturbing mechanical equipment to clear on slopes over 20%.

Perform soil-disturbing or heavy mechanical clearing when the ground is sufficiently dry to sustain heavy equipment and excessive rutting will not occur.

Use measures to control the spread of noxious weeds.

Do not use ground-disturbing mechanical methods in areas with T&E plant species unless determined appropriate through consultations.

Do not use ground-disturbing mechanical methods in areas with cultural resources unless determined appropriate through consultations.

Do not use ground-disturbing mechanical methods in riparian areas.

Herbicides Requirements

Follow product label directions, as required by FIFRA, including "mandatory" statements (such as registered uses, maximum use rates, application restrictions, worker safety standards, restricted entry intervals, environmental hazards, weather restrictions, and equipment cleaning).

Follow all product label "advisory" statements (such as techniques for mixing, applying and cleaning within the mandatory requirements, recommendations for protection clothing, guidelines for differing soil types, etc).

Always have a copy of the herbicide label and Material Safety Data Sheets (MSDS) at work sites during all mixing and applications.

Ensure that all herbicide applications are conducted in the presence of a licensed applicator valid for the state where the work is located.

Keep records of each application, including the active ingredient, formulation, application rate, date, time, location, etc. Records must be available to state and Federal inspectors, and may need to be supplied to landowners (e.g. Forest Service and WA DNR).

Ensure the use of EPA-approved herbicides that have been reviewed by Bonneville for effectiveness and environmental considerations.

Never leave herbicides or equipment unattended in unrestricted access areas.

See **Water Resources** for herbicide mitigation measures near wetlands, streams, rivers, ponds, and wells.

Before application, thoroughly review the right-of-way to identify and mark, if necessary, the buffer requirements.

Protect drinking water sources by following all buffer zone restrictions.

Observe restricted entry intervals specified by the herbicide label and post public warning signs where required.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

See Handbook — [Debris disposal](#) for a checkbox list and requirements.

- Chip:** (Mechanical brush disposal unit cuts brush into chips 4 in. or less in diameter, and spread over ROW, piled on ROW, or trucked off site. Trunks too large for the chipper are limbed and the limbs chipped. Trunks are placed in rows along the edge of the right-of-way or scattered, as the situation requires.)
- Lop and Scatter:** (Branches of a fallen tree are cut off (lopped) by ax or chainsaw, so the tree trunk lies flat on the ground. The trunks are occasionally cut in 1-to-2-m (4-to-8-ft.) lengths. The cut branches and trunks are then scattered on the ground, laid flat, and left to decompose.)
- Mulch:** (Mulching is a debris treatment that falls between chipping and lop-and-scatter. The debris is cut into 1-to-2-ft. lengths, scattered on the right-of-way and left to decompose.)

5.2 List areas of reseeded or replanting (those areas not already described in steps 1, 2, or 3).

See Handbook — [Reseeding/replanting](#) for requirements.

No soil disturbance is expected therefore, no reseeded will be required.

5.3 If not using native seed/plants, describe why.

See 5.2

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

See 5.2

6. DETERMINE MONITORING NEEDS

See handbook — [Monitoring](#) for requirements.

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

Right-of-way will be visited during operations and late summer after contractor has completed work to determine if target vegetation was cut and treated effectively, whether desired results were achieved for riparian as well as non-riparian areas and if mitigation measures were appropriately utilized and effective.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

See 6.1

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

See handbook — [Prepare Appropriate Environmental Documentation](#) for requirements. . Also prepare Supplement Analysis — [Supplement Analysis](#) — for signature.

7.1 Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are “substantial”.

NA

7.2 Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

NA