DOE F 1325.8 e Electronic Form Approved by CGIR - 01/20/95
(8-89)

United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: June 10, 2002

REPLY TO ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285/SA- 73-St. Johns-St. Helens)

TO: Jim Jellison – TFO/Olympia
Ed Tompkins – TFO/Ross

Proposed Action: Vegetation Management for the St. Johns-St. Helens Transmission Line.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: BPA proposes to remove unwanted vegetation in the rights-of-ways and around tower structures that may impede the operation and maintenance of the subject transmission line. See Section 1.4 of the attached checklist for a complete description of the proposed action.

Analysis: Please see the attached checklist for the resources present. Applicable findings and mitigation measures are discussed below.

Planning Steps:

1. Identify facility and the vegetation management need.

Work will take place on a 32+-mile stretch of the St. Johns-St. Helens 115kV transmission line between towers 2/1 and 23/3 having an easement width of 150 feet. The ROW is located in Washington and Columbia Counties, Oregon in the BPA Olympia Region. Tall growing vegetation of the types and densities listed in section 1.2 of the attached checklist are present in the ROW and will soon pose a hazard to the lines. Project involves clearing this tall growing vegetation and treatment of the associated stumps and re-sprouts with herbicides to ensure that the roots are killed.

Vegetation on access roads and around tower sites that impede the operation and maintenance of the transmission line will also cleared and/or treated.

All off right-of-way trees that are potentially unstable and will fall within a minimum distance or into the zone where the conductors will swing will be removed.

Noxious weeds are present in the ROW. No active program for noxious weed treatment exists at this time.

This vegetation management program is designed to provide a 3-8 year maintenance free interval. Future cycles of work will involve cut stump, basal treatments or tree cutting.

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

The subject corridor traverses residential, rural, agricultural, grazing lands, industrial Forestlands and urban small lot holders. Landowners along the ROW will be contacted in person or by door hanger's prior to start of work.

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.

Water resources identified include riparian zones, T&E streams and a spring. Mitigation measures include selective methods and the use of buffer zones as described in Sections 3.1 and 3.2 of the attached checklist. These mitigation measures are consistent with the EIS.

Bald eagle habitat has been identified in the work corridor. Mitigation measures to assure no affect on the eagles are described in Section 3.3 of the attached checklist.

The work corridor crosses visually sensitive areas, steep slopes and spanned canyons. Mitigations include selective methods and herbicide usage as described in Sections 3.5, 3.7 and 3.8 of the attached checklist. These mitigation measures are consistent with the EIS.

No other natural resource or cultural resource issues were identified.

4. Determine vegetation control and debris disposal methods.

Vegetation will be removed using manual or mechanical methods. Herbicide applications include spot, localized and broadcast ground techniques as described in Section 5 of the attached checklist. Debris will be disposed of using either chip, lop and scatter or mulch techniques as described in Section 5 of the attached checklist.

5. Determine revegetation methods, if necessary.

Re-vegetation needs have not been determined. If needed, native grass mixtures will be considered and reseeding will be conducted when there is enough moisture to allow 2 months of growth.

6. Determine monitoring needs.

The site will be inspected during treatment. Follow up inspection will be preformed during routine BPA ground and aerial patrols.

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/ Elaine Stratton
Elaine Stratton
Environmental Protection Specialist - KEP

CONCUR: */s/ Thomas C. McKinney* DATE: 06/12/2002
Thomas C. McKinney
NEPA Compliance Officer

Attachment

cc:
L. Croff – KEC-4
T. McKinney – KEC-4
M. Hermeston – KEP-4
J. Meyer – KEP-4
E. Stratton – KEP/Z992
J. Sharpe – KEPR-4
M. Johnson – TF/DOB-1
P. Key – LC-7
D. Kraus – TFO/Olympia
S. Martin – TFO/Olympia
D. Swanson – TFOP/Ross
Environmental File – KEC
Official File – KEP-4 (EQ-14)

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Vegetation Management Checklist

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Describe Right-of-Way.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
St Johns St Helens 2/1 to 23/3	32 + miles 115kV 251 acre	150 ft	20 miles

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**.

Right Of Way:
Right-of-Way – clearing in right-of-way
Transmission Structures – clearing around
Access Road clearing - approximate miles –
Reclaim ("C") Trees
Other – Noxious weeds
Danger Trees

1.2 Describe the vegetation needing management.

See handbook — **List of Vegetation Types, Density, Noxious Weeds** for checkboxes and requirements.

Vegetation Types:
Douglas Fir
True Fir
Alder
Popular
Cottonwood
Residential/orchard tree trimming
Noxious Weeds - Tansy Ragwort, Scotch Broome, others
Blackberries
Poison Oak

☑ Medium (50 – 250 stems/per acre)

No Established Noxious weed management Program at this time. When one is develop BPA will consider the following.

Take full responsibility for controlling noxious weeds on fee-owned property.

Enter into active noxious weed control programs with land owners/managers or county weed control districts where Bonneville activities may have caused or aggravated an infestation.

Where appropriate, provide herbicides or biological control agents to landowners.

When possible, wash vehicles that have been in weed-infested areas (removing as much weed seed as possible) before entering areas of no known infestations.

Consider if appropriate, reseeding after noxious weed treatments.

When reseeding is needed, use approved weed-free seed.

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.

Tall-growing vegetation that is currently or will soon be a hazard to the line will be removed. (In places where tall growing vegetation must be left in place, it may not be possible to promote low-growing plants.)

☐ Cut-stump or follow-up herbicide treatments on re-sprouting-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**.

ROW has been treated in the last 2-3 years. This will be a subsequent entry as listed below.

Description of the Proposed Action: BPA proposes to clear unwanted vegetation in the rights-of-ways and around tower structures that may impede the operation and maintenance of the subject transmission line. Also, access road clearing will be conducted. All work will be in accordance with the National Electrical Safety Code and BPA standards. BPA plans to conduct vegetation control with the goal of removing tall growing vegetation that is currently or will soon be a hazard to the transmission line. BPA's overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation. All tall growing tree species over 1 foot tall.

In addition, listed noxious weeds are present in the ROW. A cooperative effort to control noxious weeds is also proposed. Tansy ragwort, scotch broom and knapweed have been a concern. These weeds and other listed noxious weeds are non-native species that need to be controlled to prevent any additional spread of these weeds and encroachment of habitat for native species on the right-of-way. These noxious weed species will be controlled using an Integrated Vegetation Management Approach (IVM) using a combination of manual, mechanical herbicides, and biological methods.

The width of the ROW easement is 150 feet. All work will be accomplished by selective and non-selective vegetation control methods to assure that there is little potential harm to non-target vegetation and to low-growing plants. The work will provide system reliability.

Initial entry – Completed 2-3 years ago

Brush management on the ROW work will be to clear tall growing vegetation that is currently or will soon pose a hazard to the lines; treat the associated stumps and re-sprouts with herbicides (spot and localized treatments) to ensure that the roots are killed preventing new sprouts and selectively eliminating tall growing vegetation before it reaches a height or density to begin competing with low-growing vegetation. Areas may be replanted or reseeded with low-growing vegetation if there is limited vegetation to re-establish the site. Desirable low-growing plants will not be disturbed on the right-of-way by using selective control methods, and by keeping trucks and equipment on designated access roads and trails. All work will take place in existing rights-of-ways. Slash and debris will be loped and scattered.

Danger Trees are currently being marked and identified.

Access roads and Tower sites will be treated using selective and non-selective methods that include, hand cutting, mowing, and herbicide spot, localized and broadcast applications including cut stubble and localized granular treatments

Noxious Weeds- The selection of methods and herbicides for noxious weed management will be based on their location and proximity to water resources. Treatment will be limited to Spot, localized and ground broadcast treatments. Non-selective treatments using ground broadcast treatment may be required in areas of high infestation of weeds on the ROW, and access roads and tower sites. Localized Granular treatments will also be considered. There is no active program at this time.

Subsequent entry

In the near future, Danger trees that are off of right-of-way and are potentially unstable and will fall within a minimum distance or into the zone where the conductor swing will be cut. Trees that are an imminent hazard (emergency) will be removed when identified. The danger tree process requires a survey of the trees by a specialized BPA crew that identifies hazard trees along the ROW, marks them, appraises the trees, and negotiates with the landowner on the details of falling the tree. The tree remains the property of the landowners.

The vegetation management program will be designed to provide a 3-8 year maintenance free interval. The overall vegetation management scheme will be to initially clear and remove all tall rowing trees using a combination of manual, mechanical, and herbicide treatments as outlined in the initial treatment

Future cycles -

Future cycles of work will involve cut stump, basal treatments, or tree cutting. During routine patrols, the ROW will be examined for edge and danger trees with appropriate actions taken

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
- ☐ Urban Small lot holders

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

See Handbook — **Methods for Notification and Requesting Information** for requirements.

Before initial treatment 2-3 years ago letters were sent to all landowners on the Right of Way. Contacts were made and sensitive areas Identified.

During this treatment, Landowner within 200 feet of the ROW will be contacted in person or by door hangers. Danger Tree Crew has been working in the area and contacting owners about future vegetation control.

2.3 List the specific land owner/land use 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.**.

LOCATION			(1)	(2)	(3)	CONTROL PRESCRIPTION	
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES	(REMARKS)	
7/3	0	403	100	403	0.9	None Brian Montgomery 621-3523/ Chip if needed	
7/7	385	590	100	205	0.5	None Chip needed C.F.Conn	
8/3	0	50	100	50	0.1	None Chip James Parr	
8/7	0	63	100	63	0.1	Steep Slope	**Notify Landowner Ck with BPA TLM Before entry**
8/7	63	263	100	200	0.5	Riparian Zone	
8/7	263	563	100	300	0.7	Steep Slope	
8/8	0	300	100	300	0.7	None	
9/1	0	55	100	55	0.1	J. Mellor Water Supply	

9/1	55	345	100	290	0.7	Ck w/landowner 100 ft buffer on water supply		Riparian Zone
12/3	540	690	100	150		Tree Agreement	B Mares	
12/4	0	280	100	280		Tree Agreement	B Mares	
13/3	0	190	100	190	0.4	Steep Slope Jacob Jones 503 543-2491 one day notice		
13/3	190	350	100	160	0.4	None Jacob Jones 503 543-2491 one day notice		
13/4	0	200	100	200	0.5	Steep Slope Jacob Jones 503 543-2491 one day notice		
13/4	200	408	100	208	0.5	Salmon T&E ZONE Jacob Jones 503 543-2491 one day notice S. Scappoose Ck		
13/5	0	177	100	177	0.4	Salmon T&E ZONE Jacob Jones 503 543-2491 one day notice		
13/5	177	647	100	470	1.1	Open Ck for Lone trees Salmon T&E ZONE Jacob Jones 503 543-2491 one day notice		
13/6	600	850	100	250	0.6	Tree agree. Sjurset		
15/5	0	400	100	400	0.9	OPEN CK Larence Palk one day notice 503 543-7387 503 320-1834 No Herbicide		
15/6	0	435	100	435	1.0	OPEN CK Laurence Palk one day notice 503 543-7387 503 320-1834 No Herbicide		
16/5	50	150	100	100	0.2	Tree Agree	Locklear	
16/6	330	420	100	90	0.2	Tree Agree	Tucker	
17/7	0	80	100	80	0.2	Steep slope	**X-Mass trees in spans Contact landowner/s. Do not cut trees that look like Xmas Trees. Cut other trees according to Specs.**	
17/7	80	280	100	200	0.5	Riparian		
17/7	280	525	100	245	0.6	Steep slope		
18/1	0	350	100	350	0.8	Steep slope		
81/1	350	775	100	425	1.0	Riparian		
18/1	775	1245	100	470	1.1	Steep slope		
18/2	0	451	100	451	1.0	None		
18/3	0	428	100	428	1.0	Rodney Nastrom 397-5997 Will top trees on slope		
19/1	0	219	100	219	0.5	OPEN/Warren Sub. Contact M. McKay if cutting is required		
20/6	0	440	100	440	1.0	OPEN CHK Dave Wilson 20/6-21/7		
20/7	0	960	100	960	2.2	OPEN CHK Dave Wilson 20/6-21/7		
21/3	0	240	100	240	0.6	None Winnifred Lokken One day notice locked gate 397-9058		
21/7	0	150	100	150	0.3	None Some Topping may be needed		

21/7	600	681	100	81	0.2	None Some Topping may be needed		
22/2	0	260	100	260	0.6	None chip	**Contact Landowner Before Treatment Richard and Douglas Morton 543-2404 282-5456 HOT**	
22/2	260	460	100	200	0.5	Riparian chip		
22/2	460	749	100	289	0.7	None chip		
22/2	749	978	100	229	0.5	Riparian chip		

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.

See Above

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.

All Private lands one golf course

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.

All local public landowners are contacted

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

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LOCATION			(1)	(2)	(3)	Riparian	
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES		
4/6	25	225	100	200	0.5	0.5	Riparian Zone
4/8	200	402	100	202	0.5	0.5	Riparian Zone
5/3	87	287	100	200	0.5	0.5	Riparian Zone
5/4	127	597	100	470	1.1	1.1	Riparian Zone
5/6	400	864	100	464	1.1	1.1	Riparian Zone
6/1	345	545	100	200	0.5	0.5	Riparian Zone
6/3	254	454	100	200	0.5	0.5	Riparian Zone chip slash within 50 feet of McNamee RD
6/9	463	663	100	200	0.5	0.5	Riparian Zone

7/2	255	455	100	200	0.5	0.5	Water/Wetlands
7/4	274	848	100	574	1.3	1.3	Riparian Chip or remove if needed
8/2	481	579	100	98	0.2	0.2	Riparian Chip or remove if needed
8/5	168	317	100	149	0.3	0.3	Riparian Chip or remove if needed
8/7	63	263	100	200	0.5	0.1	Riparian Zone
8/9	1018	1309	100	291	0.7	0.7	Riparian Zone
9/1	543	743	100	200	0.5	0.7	Riparian Zone
10/3	260	725	100	465	1.1		Spanned Canyon
10/5	201	501	100	300	0.7	0.7	Riparian Zone
10/6	271	471	100	200	0.5	0.5	Riparian Zone
11/4	160	488	100	328	0.8	0.8	Riparian Zone
11/7	86	286	100	200	0.5	0.8	Riparian Zone
11/7	**440**	**500**	100	60	0.1	**0.1**	Riparian Zone
11/8	0	140	100	140	0.3	0.3	Riparian Zone
11/8	275	625	100	350	0.8	0.8	Riparian Zone
11/9	0	265	100	265	0.6	0.6	Riparian Zone
12/6	235	435	100	200	0.5	0.5	Riparian Zone
12/8	**200**	**400**	**100**	200	0.5	**0.5**	Riparian Zone
13/4	200	408	100	208	Salmon T&E 0.5	0.5	
13/5	0	177	100	177	Salmon T&E 0.4	0.4	
13/5	177	647	100	470	Salmon T&E 1.1		
13/9	180	380	100	200	0.5	0.5	Riparian Zone
14/6	155	618	100	463	1.1	1.1	Riparian Zone
15/4	512	652	100	140	0.3	0.3	Riparian Zone
15/7	100	671	100	571	1.3	1.3	Salmon T&E
15/7	671	865	100	194	0.4	0.4	Salmon T&E
15/8	0	100	100	100	0.2		T&E /open
16/3	449	650	100	201	0.5	0.5	Riparian
16/6	0	300	100	300	0.7	0.7	Riparian
17/1	663	850	100	187	0.4	0.4	Riparian
17/6	82	282	100	200	0.5	0.5	Riparian/open
17/7	80	280	100	200	0.5	0.5	Riparian

81/1	350	775	100	425	1.0	1.0	Riparian
18/4	167	367	100	200	0.5	0.5	Riparian
19/3	258	458	100	200	0.5	0.5	Riparian
19/5	500	700	100	200	0.5	0.5	Riparian/open
19/7	267	567	100	300	0.7	0.7	Riparian
20/5	435	635	100	200	0.5	1	Riparian
21/2	530	730	100	200	0.5	0.5	Riparian
22/2	260	460	100	200	0.5	0.5	Riparian chip
22/2	749	978	100	229	0.5	0.5	Riparian chip

Salmon T&E Streams

State and/or Private lands within 122 m (400 ft.) of a listed stream. Available: manual, mechanical, spot and localized herbicide, broadcast treatments, and biological treatments. No mechanical within 100 feet of streams except for tower sites and access roads.

Manual: Hand tools and chainsaws

Mechanical: None within 100 feet of stream. Except for Access Roads and Tower sites. On the Right-of-way, no ground disturbing activities within 400 feet from the stream.

Herbicide: No herbicides from 0 to 100 feet away from water. From 100 to 200 feet, use only Non-toxic formulations to moderately toxic (to aquatic species) formulations of glyphosate (such as Rodeo®), dicamba (Trooper/Vanquish), Escort, clopyralid, picloram, and 2-4-d using wick and spot-foliar treatments (localized) and ground broadcast treatments with handgun only. Highly Toxic and very Highly toxic (to fish) herbicides will not be used within 200 feet of a T&E Stream.

Streams and Wetlands (Riparian Areas)

State Forest or private lands, within 30.5 m (100 ft.) of a stream and wetland areas. Available: all manual and biological treatments

Manual: Hand tools and chainsaws

Mechanical: None, within 50 feet of streams or wetlands. Only on Access Roads and Tower sites

Herbicide: Formulations of slightly toxic (to aquatic species) formulations of glyphosate (such as Rodeo®), Imazapyr, 2,4-d, and triclopyr (Garlon 3A) may be prescribed for wick, cut-stump, basal-stem, stem-injection, spot-foliar (localized), and ground broadcast treatments using appropriate buffers. In addition, Escort and clopyralid can be used for spot foliar and broadcast treatments. Use appropriate buffers as described in the buffer table. Broadcast treatments using handgun or ground broadcast can be completed with the appropriate buffers on noxious weeds, access roads and tower sites.

Use only Herbicides labeled for wetland areas

BPA BUFFER Herbicide

HERBICIDE	Ground water Advisory	Surface Water Advisory	Highest Aquatic Toxicity Invertebrates/Vertebrates	Spot treat	Localized	Ground Broadcast
Transline Clopyralid	x		Practically Non Toxic	25 ft	35 ft	100 ft
2,4-d Dimethyl amine Salt	x		Practically Non Toxic	25 ft	35 ft	100 ft
Glypro/Accord Glyphosate			Practically Non Toxic	Up to edge	Up to edge	35 ft
2,4-d Dodecyl/amine salt	x		Slightly toxic	25 ft	35 ft	100 ft
Tordon 22K picloram	x	x	Moderately Toxic	25 ft	35 ft	100 ft
Vanquish dicamba	x	x	Slightly Toxic	25 ft	35 ft	100 ft
Escort			Practically Non Toxic	Up to edge	Up to edge	35 ft
Garlon 3A			Practically Non Toxic	Up to edge	Up to edge	35 ft
Garlon 4			Highly Toxic	35 ft	100 ft	----

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.

9/1	0	55		0.1		1	J. Mellor Water Supply	

Maintain 164 ft buffer from spring

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.

Span		T&E Species	Method/mitigation or avoidance measures
To	From		
5/5	6/1	Bald Eagles	**Wintering bald eagles:** No work within 100 meters (328 feet) of any known wintering bald eagle roosts from Nov. 1 through March 15 unless clearance surveys are done daily to determine that no bald eagles are present within 100 meters of activities. If roosting trees are to be removed, you will need to do formal consultation with USFWS. **Nesting bald eagles:** No work within 0.25 miles if out of line-of-sight of nesting tree, or 0.5 miles if in line-of-sight of nesting tree from January 1 to August 31, unless clearance surveys show that there is no nesting occurring. May be able to cut sooner if consult with USFWS and can show that young have fledged.

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

See Handbook — **Protecting Other Species** for requirements.

Development of Low Growing Plant Communities will benefit wildlife species in General

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

See Handbook — **Visual Sensitive Areas** for requirements.

Some areas will have slash chipped to minimize visual effect. Some tree Topping will occur

LOCATION			(1)	(2)	(3)	Chipping	
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES	Acres	
3/4	0	200	100	200	0.5	(.5)	Steep Slope
3/4	1060	1291	100	231	0.5	0.5	Steep Slope
6/2	0	181	100	181	0.4	0.4	None chip slash within 50 feet of McNamee RD
6/2	221	570	100	349	0.8	0.8	None chip slash within 50 feet of McNamee RD
6/3	0	254	100	254	0.6	0.6	None chip slash within 50 feet of McNamee RD
6/3	254	454	100	200	0.5	0.5	Riparian Zone chip slash within 50 feet of McNamee RD
6/3	454	680	100	226	0.5	0.5	None chip slash within 50 feet of McNamee RD
6/5	0	479	100	479	1.1	1.1	None Alberton Dr
6/6	787	1040	10	253	0.1	0.1	Steep Slope Cornelius pass RD
6/8	0	424	100	424	1.0	1.0	Open area Ck for lone trees

7/3	0	403	100	403	0.9	0.9	
7/4	0	274	100	274	0.6	0.6	None Chip if needed
7/4	274	848	100	574	1.3	1.3	Riparian Chip or remove if needed
7/5	0	532	100	532	1.2	1.2	None Chip if needed
7/6	0	220	100	220	0.5	0.5	None Chip if needed
7/6	220	370	100	150	0.3	0.3	None Chip if needed
7/7	385	590	100	205	0.5	0.5	None Chip needed C.F.Conn
8/2	0	481	100	481	1.1	0.9	None Chip if needed
8/2	481	579	100	98	0.2	0.2	Riparian Chip or remove if needed
8/3	0	50	100	50	0.1	0.5	None Chip James Parr
8/5	0	168	100	168	0.4	0.4	Steep Slope Chip if needed Special
8/5	168	317	100	149	0.3	0.3	Riparian Chip or remove if needed
12/1	0	370	100	370	0.8	0.8	Steep slope
13/6	390	420	100	30	0.1	0.1	Steep slope
13/7	175	327	100	152	0.3	0.3	None
14/6	49	155	100	106	0.2	0.2	Steep slope
15/7	671	865	100	194	0.4	0.4	Salmon T&E
16/6	0	300	100	300	0.7	0.7	Riparian
21/7	0	150	100	150	0.3	0.2	None Some Topping may be needed
21/7	600	681	100	81	0.2	0.2	None Some Topping may be needed
22/1	0	526	100	526	1.2	1.2	None chip
22/2	0	260	100	260	0.6	0.6	None chip
22/2	260	460	100	200	0.5	0.5	Riparian chip
22/2	460	749	100	289	0.7	0.5	None chip
22/2	749	978	100	229	0.5	0.5	Riparian chip

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

See Handbook – **Cultural Resources** for requirements.

Soil disturbance will be minimal (less than 6 inches) and confined to access roads and tower Sites

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.

LOCATION			(1)	(2)	(3)	CONTROL PRESCRIPTION
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES	(REMARKS)

2/1	2050	2490	150	440	1.5	Steep Slope	
2/2	0	327	150	327	1.1	Steep Slope	
2/3	0	513	100	513	1.2	Steep Slope	
3/2	0	190	100	190	0.4	Steep Slope	
3/2	560	910	100	350	0.8	Steep Slope	
3/3	0	160	100	160	0.4	Steep Slope	
3/3	273	558	100	285	0.7	Steep Slope	
3/4	0	200	100	200	0.5	Steep Slope	(Chip if needed)
3/4	1060	1291	100	231	0.5	Steep Slope	Chip
3/6	0	625	100	625	1.4	Steep Slope	
3/6	735	1075	100	340	0.8	Steep Slope	
4/8	0	70	100	70	0.2	Steep Slope	
4/8	70	200	100	130	0.3	Spanned Canyon	
4/8	200	402	100	202	0.5	Riparian Zone	
4/8	402	988	100	586	1.3	Steep Slope	
4/9	0	529	100	529	1.2	None	
5/1	0	200	100	200	0.5	Steep Slope	
5/1	200	520	100	320	0.7	Spanned Canyon	
5/1	520	770	100	250	0.6	Steep Slope	
5/2	0	250	100	250	0.6	Steep Slope	
5/2	450	1050	100	600	1.4	Steep Slope	
5/4	0	227	100	227	0.5	Steep Slope	
5/4	597	825	100	228	0.5	Steep Slope	
5/6	0	400	100	400	0.9	Steep Slope	BALD EAGLE ZONE
5/6	864	900	100	36	0.1	Steep Slope	BALD EAGLE ZONE
5/7	0	295	100	295	0.7	Steep Slope	BALD EAGLE ZONE
5/7	470	915	100	445	1.0	Steep Slope	BALD EAGLE ZONE
6/1	0	345	100	345	0.8	Steep Slope	
6/1	545	1035	100	490	1.1	Steep Slope	
6/6	787	1040	10	253	0.1	Steep Slope Cornelius pass RD	Chip or remove
8/5	0	168	100	168	0.4	Steep Slope Chip if needed Special	
8/7	0	63	100	63	0.1	Steep Slope	**Notify Landowner Ck with BPA TLM Before entry**
8/7	263	563	100	300	0.7	Steep Slope	
8/9	100	506	100	406	0.9	Steep Slope	
9/1	345	543	100	198	0.5	Steep Slope	

9/6	0	350	100	350	0.8	Steep Slope		
9/7	0	375	100	375	0.9	Steep Slope		
9/8	0	525	100	525	1.2	Steep Slope		
10/1	0	700	100	700	1.6	Steep Slope		
10/2	0	385	100	385	0.9	Steep Slope		
10/3	0	260	100	260	0.6	Steep Slope		
10/3	260	725	100	465	1.1	Spanned Canyon	Crabapple Ck	
10/3	725	1141	100	416	1.0	Steep Slope		
10/8	0	324	100	324	0.7	Steep Slope		
11/1	0	473	100	473	1.1	Steep Slope		
11/4	0	160	100	160	0.4	Steep Slope		
11/4	488	518	100	30	0.1	Steep Slope		
11/7	0	86	100	86	0.2	Steep Slope		
11/9	265	560	100	295	0.7	Steep slope		
12/1	0	370	100	370	0.8	Steep slope	Chip	
12/8	0	200	100	775	1.8	Steep slope		
12/8	**400**	**775**	**100**	375	0.9	Steep slope		
13/3	0	190	100	190	0.4	Steep Slope Jacob Jones 503 543-2491 one day notice		
13/4	0	200	100	200	0.5	Steep Slope Jacob Jones 503 543-2491 one day notice		
13/6	390	420	100	30	0.1	Steep slope	Chip	
14/1	0	320	100	320	0.7	Steep slope		
14/3	0	320	100	320	0.7	Steep slope		
14/6	618	775	100	157	0.4	Steep slope		
15/1	0	655	100	655	1.5	Steep slope		
15/4	0	512	100	512	1.2	Steep slope		
17/4	0	790	100	790	1.8	Steep may require chipping		
17/6	330	451	100	121	0.3	Steep slope Chip Oster Rd		
17/7	0	80	100	80	0.2	Steep slope	**X-Mass trees in spans Contact landowner/s. Do not cut trees that look like Xmas Trees. Cut other trees according to Specs.**	
17/7	280	525	100	245	0.6	Steep slope		
18/1	0	350	100	350	0.8	Steep slope		
18/1	775	1245	100	470	1.1	Steep slope		
18/4	0	167	100	167	0.4	Steep slope		Crops
18/4	367	650	100	283	0.6	Steep slope		
20/5	0	435	100	435	1.0	Steep slope		
20/5	635	1210	100	575	1.3	Steep slope		

21/2	0	530	100	530	1.2	Steep slope		
21/2	730	1230	100	500	1.1	Steep slope		

Span		Describe sensitivity	Method/mitigation measures
To	From		
Fill-in		Fill-in	Fill-in

STEEP SLOPES

Manual: Hand tools and chainsaws

Mechanical: Can be used on roads and towers, No Ground disturbing activities on steep slopes

Herbicide: Glyphosate, Picloram, Imazapyr, 2,4-d, Triclopyr (Garlon 3A and Garlon 4), Dicamba may be prescribed for cut-stump, stem-injection, and basal-stem treatments, as well as for spot-foliar, cut stubble, and ground broadcast-foliar treatments. In addition, Escort and clopyralid can be used for spot foliar and broadcast treatments.

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

See Handbook – **Spanned Canyons** for requirements.

LOCATION			(1)	(2)	(3)		Pole	CONTROL PRESCRIPTION	
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES	SC	Sites	(REMARKS)	
2/1	0	2050	150	2490	8.6	8.6	1	Spanned Canyon	
3/2	190	560	100	370	0.8	0.8		Spanned Canyon	
3/3	160	273	100	113	0.3	0.3		Spanned Canyon	
3/4	200	1060	100	860	2.0	2.0		Spanned Canyon	Miller Cr
4/8	70	200	100	130	0.3	0.2		Spanned Canyon	
5/1	200	520	100	320	0.7	0.7		Spanned Canyon	
5/2	250	450	100	200	0.5	0.5		Spanned Canyon	
5/7	295	470	100	175	0.4	0.4		Spanned Canyon	BALD EAGLE ZONE
6/6	440	787	100	347	0.8	0.8		Spanned Canyon	
8/9	506	1018	100	512	1.2	1.2		Spanned canyon	
10/3	260	725	100	465	1.1	0.9		Spanned Canyon	Crabapple Ck
11/9	560	760	100	200	0.5	0.5		Spanned canyon	
14/1	320	520	100	200	0.5	0.5		Spanned canyon	Coal ck

SPANNED CANYONS CODE

Any areas in the corridor with greater than 38.1 m (125 ft.) vertical distance between the ground surface and transmission lines. Here, removal is periodically required only of individual trees (single tree cuts) that could encroach into the transmission corridor danger zone.

In areas adjacent to STC zones the following treatment will be required. In the area were the conductor clearance is from 70 feet to 125 feet tall growing trees will be controlled in the following manner.

1. All conifers over 14 feet tall will be controlled. Conifers over 25 feet tall will be cut for clearance.

2. Hardwood trees over 30 feet tall will be cut for clearance and treated.

3. Hardwood trees less than 30 feet tall will be left untreated.

Herbicides: NONE.

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, and Herbicides** for requirements for each of the methods.

LOCATION			(1)	(2)	(3)	Pole	CONTROL PRESCRIPTION (REMARKS)	
STR. NO.	FROM	TO	WIDTH	LENGTH	ACRES	Sites		
3/1	0	357	100	357	0.8	1	None	
3/5	0	375	100	375	0.9	1	None	
3/7	0	245	100	245	0.6	1	None	
4/1	0	655	100	655	1.5	1	None	
4/2	0	450	100	450	1.0	1	None	
4/3	0	450	100	450	1.0	1	None	
4/4	0	500	100	500	1.1	1	None	
4/5	0	400	100	400	0.9	1	None	
4/6	0	25	100	25	0.1	1	None	
4/6	225	642	100	417	1.0		None	
4/7	0	809	100	809	1.9	1	None	
4/9	0	529	100	529	1.2	1	None	
5/3	0	87	100	87	0.2	1	None	
5/3	287	500	100	213	0.5		None	
5/5	0	475	100	475	1.1	1	None	BALD EAGLE ZONE
6/2	0	181	100	181	0.4	1	None chip slash within 50 feet of McNamee RD	
6/2	181	221	100	40	0.1		None Open area Ck for lone trees	
6/2	221	570	100	349	0.8		None chip slash within 50 feet of McNamee RD	

6/3	0	254	100	254	0.6	1	None chip slash within 50 feet of McNamee RD	
6/3	454	680	100	226	0.5		None chip slash within 50 feet of McNamee RD	
6/4	0	281	100	281	0.6	1	None RR X open	
6/5	0	479	100	479	1.1	1	None Alberton Dr	Chip or remove if needed
6/6	0	440	100	440	1.0	1	None	Chip or remove if needed
6/7	0	400	100	400	0.9	1	Open area Ck for lone trees	
6/8	0	424	100	424	1.0	1	Open area Ck for lone trees	
6/9	0	463	100	463	1.1	1	None	
6/9	663	960	100	297	0.7		None	
7/1	0	572	100	572	1.3	1	None	
7/2	0	255	100	255	0.6	1	None	
7/2	455	497	100	42	0.1		None	
7/3	0	403	100	403	0.9	1	None Brian Montgomery 621-3523/ Chip if needed	
7/4	0	274	100	274	0.6	1	None Chip if needed	
7/5	0	532	100	532	1.2	1	None Chip if needed	
7/6	0	220	100	220	0.5	1	None Chip if needed	
7/6	220	370	100	150	0.3		None Chip if needed	
7/6	370	729	100	359	0.8		Open area Ck for lone trees	
7/7	0	385	100	385	0.9	1	Open area Ck for lone trees	
7/7	385	590	100	205	0.5		None Chip needed C.F.Conn	
7/7	590	845	100	255	0.6		Open area Ck for lone trees	
7/8	0	514	100	514	1.2	1	Open area Ck for lone trees	
8/1	0	587	100	587	1.3	1	Open area Ck for lone trees	
8/2	0	481	100	481	1.1	1	None Chip if needed	
8/3	0	50	100	50	0.1	1	None Chip James Parr	
8/3	50	388	100	338	0.8		Open area Ck for lone trees	
8/4	0	372	100	372	0.9	1	Open area Ck for lone trees	
8/5	317	632	100	315	0.7		Open area Ck for lone trees	
8/6	0	530	100	530	1.2	1	Open area Ck for lone trees	
8/8	0	300	100	300	0.7	1	None	
8/8	300	631	100	331	0.8		Open area Ck for lone trees	
8/9	0	100	100	100	0.2	1	Open area Ck for lone trees	
8/9	1309	1509	100	200	0.5		Open area Ck for lone trees	
9/1	743	954	100	211	0.5		None	
9/2	0	335	100	335	0.8	1	None	

9/3	0	615	100	615	1.4	1	None	
9/4	0	650	100	650	1.5	1	None	
9/5	0	600	100	600	1.4	1	None	
10/4	0	743	100	743	1.7	1	None	
10/5	0	201	100	201	0.5	1	None	
10/5	501	780	100	279	0.6		None	
10/6	0	271	100	271	0.6	1	None	
10/6	471	580	100	109	0.3		None	
10/7	0	870	100	870	2.0	1	None	
11/3	0	586	100	586	1.3	1	None	
11/3	0	377	100	377	0.9	1	None	
11/5	0	317	100	317	0.7	1	None	
11/6	0	600	100	600	1.4	1	None	
11/7	286	440	100	154	0.4		None	
11/8	140	275	100	135	0.3		None	
11/9	760	1100	100	340	0.8		Open area Ck for lone trees	
12/1	0	87	100	87	0.2	1	Open area Ck for lone trees	
12/1	0	370	100	370	0.8	1	Steep slope	Chip
12/1	370	425	100	55	0.1		Open area Ck for lone trees	
12/2	0	50	100	50	0.1	1	Open area Ck for lone trees	
12/2	50	100	100	50	0.1		None	
12/2	100	630	100	530	1.2		Open area Ck for lone trees	
12/3	0	540	100	540	1.2	1	Open area Ck for lone trees	
12/4	280	403	100	123	0.3		Open area Ck for lone trees	
12/4	403	680	100	277	0.6		None	
12/5	0	550	100	550	1.3		None	
12/6	0	235	100	1000	2.3	1	None	
12/6	435	1000	100	565	1.3		None	
12/7	0	500	100	500	1.1	1	None	
13/1	0	420	100	420	1.0	1	None	
13/1	420	525	100	105	0.2		Open area Ck for lone trees	
13/2	0	300	100	300	0.7	1	Open area Ck for lone trees	
13/3	190	350	100	160	0.4		None Jacob Jones 503 543-2491 one day notice	
13/5	177	647	100	470	1.1		Open Ck for Lone trees Salmon T&E ZONE Jacob Jones 503 543-2491 one day notice	

13/5	647	991	100	344	0.8		Open area Ck for lone trees		
13/6	0	390	100	390	0.9	1	Open area Ck for lone trees		
13/6	420	600	100	180	0.4		Open area Ck for lone trees		
13/6	850	923	100	73	0.2		None		
13/6	923	972	100	49	0.1		Open area Ck for lone trees		
13/7	0	175	100	175	0.4	1	Open area Ck for lone trees		
13/7	175	327	100	152	0.3		None	Chip	
13/8	0	450	100	450	1.0	1	Open area Ck for lone trees		
13/9	0	96	100	96	0.2	1	Open area Ck for lone trees		
13/9	96	180	100	84	0.2		None		
13/10	0	650	100	650	1.5	1	None		
14/1	520	1150	100	630	1.4		Open area Ck for lone trees		
14/2	0	420	100	420		1	Open area Ck for lone trees		Wetland
14/3	320	755	100	435	1.0		Open area Ck for lone trees		
14/4	0	100	100	100	0.2	1	Open area Ck for lone trees		
14/4	100	338	100	238	0.5		None		
14/5	0	462	100	462		1	Open area Ck for lone trees		
14/6	0	49	100	49	0.1	1	Open area Ck for lone trees		
14/7	0	300	100	300	0.7	1	None		
14/7	300	450	100	150	0.3		Open area Ck for lone trees		
14/8	0	386	100	386	0.9	1	Open area Ck for lone trees		
14/9	0	323	100	323	0.7	1	None		
15/2	0	385	100	385	0.9	1	None		
15/3	0	400	100	400	0.9	1	None		
15/4	652	1100	100	448	1.0		None		
15/5	0	400	100	400	0.9	1	OPEN CK Laurence Palk one day notice 503 543-7387 503 320-1834 No Herbicide		
15/6	0	435	100	435	1.0	1	OPEN CK Laurence Palk one day notice 503 543-7387 503 320-1834 No Herbicide		
15/7	0	865	100	865	2.0	1	None		
15/8	100	338	100	238	0.5		Open area Ck for lone trees		
15/9	0	622	100	622	1.4	1	Open area Ck for lone trees		
16/1	0	775	100	775	1.8	1	Open area Ck for lone trees		
16/2	0	806	100	806	1.9	1	Open area Ck for lone trees		
16/3	0	449	100	449	1.0	1	0pen area Ck for lone trees		
16/3	650	688	100	38	0.1		None		
16/4	0	550	100	550	1.3	1	Open area Ck for lone trees		

16/5	0	50	100	650	1.5	1	Open area Ck for lone trees		
16/5	150	500	100	350	0.8		0pen area Ck for lone trees		
16/5	500	650	100	150	0.3		None		
16/6	300	330	100	30	0.1		0pen area Ck for lone trees		
16/6	420	803	100	383	0.9		0pen area Ck for lone trees		
16/7	0	300	100	696	1.6	1	Open area Ck for lone trees		Cedar?
16/8	0	600	100	600	1.4	1	Open area Ck for lone trees		
17/1	0	663	100	663	1.5	1	None		
17/1	850	1292	100	442	1.0		None		
17/2	0	607	100	607	1.4	1	None		
17/3	0	261	100	261	0.6	1	None		
17/3	261	660	100	399	0.9		Open area Ck for lone trees		
17/4	790	940	100	150	0.3		Open area Ck for lone trees		
17/5	0	498	100	498	1.1	1	Open area Ck for lone trees		
17/6	0	330	100	330	0.8	1	Open area Ck for lone trees		
17/6	282	330	100	48	0.1		Open area Ck for lone trees		
18/2	0	451	100	451	1.0	1	None		
18/3	230	428	100	198	0.5		Open area Ck for lone trees		
18/4	650	850	100	200	0.5		Open area Ck for lone trees		
18/5	0	550	100	550	1.3	1	Open area Ck for lone trees		
18/6	0	700	100	700	1.6	1	Open area Ck for lone trees		
18/7	0	670	100	670	1.5	1	Open area Ck for lone trees		
18/8	0	700	100	700	1.6	1	Open area Ck for lone trees		
19/1	0	219	100	219	0.5	1	OPEN/Warren Sub. Contact M. McKay if cutting is required		
19/2	0	311	100	311	0.7	1	Open area Ck for lone trees		
19/3	0	258	100	258	0.6	1	None		
19/3	458	836	100	378	0.9		None		
19/3	836	975	100	139	0.3		Open area Ck for lone trees		
19/4	0	344	100	344	0.8	1	Open area Ck for lone trees		
19/5	0	500	100	500	1.1	1	Open area Ck for lone trees		
19/5	700	1380	100	680	1.6		Open area Ck for lone trees		
19/6	0	600	100	600	1.4	1	Open area Ck for lone trees		
19/7	0	267	100	267	0.6	1	None		
19/7	567	990	100	423	1.0		None		

20/1	0	495	100	495	1.1	1	Open area Ck for lone trees		
20/1	495	680	100	185	0.4		None		
20/2	0	800	100	800	1.8	1	None		
20/2	800	905	100	105	0.2		Open area Ck for lone trees		
20/3	0	705	100	705	1.6	1	Open area Ck for lone trees		
20/4	0	75	100	75	0.2	1	Open area Ck for lone trees		
20/4	75	336	100	261	0.6		None		
20/5	1210	1500	100	290	0.7		Open area Ck for lone trees		
20/6	0	440	100	440	1.0	1	OPEN CHK Dave Wilson 20/6-21/7		
20/7	0	960	100	960	2.2	1	OPEN CHK Dave Wilson 20/6-21/7		
21/1	0	570	100	570	1.3	1	None		
21/3	0	240	100	240	0.6	1	None Winifred Lokken One day notice locked gate 397-9058		
31/3	240	670	100	430	1.0		Open area Ck for lone trees		
21/4	0	655	100	655	1.5	1	Open area Ck for lone trees		
21/5	0	675	100	675	1.5	1	Open area Ck for lone trees		
21/6	0	694	100	694	1.6	1	Open area Ck for lone trees		
21/7	0	150	100	150	0.3	1	None Some Topping may be needed		
21/7	150	600	100	450	1.0		Open area Ck for lone trees		
21/7	600	681	100	81	0.2		None Some Topping may be needed		
22/1	0	526	100	526	1.2	1	None chip		
22/2	0	260	100	260	0.6	1	None chip	**Contact Landowner Before Treatment Richard and Douglas Morton 543-2404 282-5456 HOT**	
22/2	460	749	100	289	0.7		None chip		
22/3	0	641	100	641	1.5	1	Open area Ck for lone trees		

Open Area need to be checked for lone trees and treated if necessary.

NO ENVIRONMENTAL CONSTRAINTS

State Forest or private lands with no environmental constraints. Available: all manual, mechanical, biological, and herbicidal treatments

Manual: Hand tools and chainsaws

Mechanical: Can be used on roads and towers, all areas suitable for mechanical treatment. No Ground disturbing activities on slopes over 20%

Herbicide: Glyphosate, Picloram, Imazapyr, picloram, 2,4-d, Triclopyr (Garlon 3A and Garlon 4), Dicamba may be prescribed for cut-stump, stem-injection, and basal-stem treatments, as well as for spot-foliar, cut stubble, and broadcast-foliar treatments. In addition, Escort and clopyralid can be used for spot foliar and broadcast treatments.

APPLICATION METHOD DESCRIPTIONS

Spot Herbicide Application

A spot application treats individual plant(s) with the least amount of chemicals possible. The methods include, but are not limited, to the following:

Stump treatments. Herbicide is applied by hand (squirt bottle) or backpack to freshly cut stumps of broadleaf trees and shrubs to prevent re-sprouting.

Injection and notch treatments. Herbicide is injected into the tree around the base using tubular injectors (lances); or herbicide is squirted or sprayed into frills, notches, or cups chopped around the base of individual trees or shrubs. These very selective treatments are only used for specific trees or shrubs and within sensitive areas such as near water.

Wick and carpet roller applications. The herbicide is wiped on the plant(s) (noxious weeds) using hand held or equipment mounted rope wicks, sponges, fiber covered wipers, or carpet wiper designs. This application devise uses saturated ropes, wick or sponges that are used to apply the herbicide selectively on the plant. This method is effective where drift or sensitive water sources are a concern.

Localized Herbicide Application

"Localized" herbicide application is the treatment of individual or small groupings of plants. This application method is normally used only in areas of low-to-medium target-plant density.

The application methods for this application group include, but are not limited to, the following:

Basal treatment. The herbicides are applied by hand (squirt bottle) or by backpack. Herbicides are applied at the base of the plant (the bark or stem) from the ground up to knee height. The herbicide is usually mixed with an oil carrier to enhance penetration through the bark, and applied to the point short of run-off. These treatments can be done during the dormant season or active growing season.

Low-volume foliar treatment. Herbicides are applied with the use of a backpack sprayer, all terrain vehicle (ATV), or tractor with a spray gun. Herbicide is applied to the foliage of individual or clumps of plants during the growing season, just enough to wet them lightly. A relatively high percentage of herbicide is used mixed with water. Thickening agents are added where necessary to control drift. Dyes may also be added to see easily what areas have been treated.

Localized granular application. Granular or pellet forms of herbicide are hand-applied to the soil surface beneath the drip lines of an individual plant, or as close to a tree trunk or stem base as possible. Herbicide is applied when there is enough moisture to dissolve and carry the herbicide to the root zone—but not so much water that it washes the granules off-site.

Broadcast Ground Herbicide Application

Broadcast herbicide applications treat an area, rather than individual plants. Broadcast applications are used to treat rights-of-way that are thickly vegetated (heavy stem density), access roads, and noxious weeds, The application methods for this group include, but are not limited to, the following:
High-volume foliar treatments. Herbicides are applied by truck, ATV, or tractor with a spray gun, broadcast nozzle, or boom. A hydraulic sprayer mounted on a rubber-tired tractor or truck or tracked-type tractor is used to spray foliage and stems of target vegetation with a mixture of water and a low percentage of herbicide. The herbicide mixture is pumped through hoses to a hand-held nozzle. A worker activates the nozzle and directs the spray to the target vegetation. Boom application methods involve a fixed nozzle or set of nozzles that spray a set width as the tractor passes over an area.

- **Cut-stubble treatment.** Herbicide is sprayed from a truck with a mounted boom over large swaths of freshly mechanically cut areas. This treatment is the broadcast style of cut-stump treatments. It is intended to keep plants from re-sprouting.

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. This method is used when terrain and conditions do not allow the use of mechanical chipping equipment.)

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

See Handbook — **Reseeding/replanting** for requirements.

If Re-Seeding is needed Mixtures of the following grasses would be beneficial

Native

California Brome (Bromus carinatus)		y
Sheep fescue (Festuca ovina)		y
Blue wildrye (Elymus glaucus)		y
Canada bluegrass (Poa compressa)		y
Smooth Brome		n
Perennial Ryegrass		n
Big Bluegrass		y
Clovers		n
Alfalfa		n
Sickle-keeled lupine	5 oz./100# seed	y
And/or Lupinus bicolor	5 oz./100# seed	y
America vetch (Vicia Americana)		y

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

Native will be considered in all mixes. Introduced species are more competitive against invading tall tree species

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

Seeding should be completed when there is enough moisture to allow for 2 months of growth. Seeding can be completed any time of the year except for the hot summer months.

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.

Site will be inspected during treatment. In addition routine patrols by BPA ground and aerial patrols

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

Routine patrols by BPA ground and aerial patrols

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

See handbook — **Prepare Appropriate Environmental Documentation** for requirements.

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".

None

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

No